



**Get Ducks, LLC**

*Waterfowl Habitat Planning and Turkey Management*

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September 2, 2003

Stephen W. Gard  
U.S. Fish and Wildlife Service  
North Mississippi Refuges Complex  
P.O. Box 1070  
Grenada, MS 38902

Dear Steve,

Thanks again for excellent accommodations and for the opportunity to provide consultation services to North Mississippi Refuges Complex. All of the refuges looked absolutely wonderful and it was great to see those areas that we labored so hard to restore after they'd grown some.

Attached are final report including clean copies of field maps, in duplicate. Total invoice came to \$2,629.00, less than anticipated.

I had to dig through old ESI files to get a map of Coldwater that had not been provided by Joint Venture. As indicated in the report, there are problem areas as well as successes – the southwest corner of Tallahatchie NWR, Goss, Staten, south Watts and Balducci. ESI needs to critically evaluate those areas and consider replanting. Because of severe herbaceous competition, especially buck vines, intensive site preparation is necessary for ensured success.

Any questions or comments regarding the report, or if I may be of service to you in the future, please do not hesitate to call.

Best regards,

D. Ramsey Russell, Jr.  
Certified Wildlife Biologist  
Mississippi Registered Forester

Attachments

## **QUALITATIVE ASSESSMENT OF ESI REFORESTATION SUCCESS ON NMRC PROPERTIES**

Prepared:  
September 8, 2003

For Client:  
Mr. Stephen W. Gard  
North Mississippi Refuges Complex  
U.S. Fish and Wildlife Service  
P.O. Box 1070  
Grenada, MS 38902

During the month of August 2003, Get Ducks, LLC, estimated post-plant success of hardwoods on 32 North Mississippi Refuges Complex properties planted FY 2002 pursuant to cooperative agreement with Environmental Synergy, Inc. Field methods consisted of visiting each site listed and making visual estimates of current stocking (i.e., survival). Where necessary sites were traversed along transects running perpendicular to land contour and observations were recorded at intervals. All on-site woody stems, whether perceived as planted or naturalized, were considered during the evaluation. Stocking was predicated on original density of 302 stems per acre.

Dense, green herbaceous cover likely precluded complete detection of seedlings. Seedlings are only recently beginning to crown above the herbaceous cover in most areas. With exceptions noted below, increased stocking of areas perceived as being sparsely regenerated, especially those patches located within tracts that are otherwise well stocked, will occur in due time through growth of seedlings not yet detected, natural regeneration or both. Final quantitative assessment is best deferred until five years post-plant; may differ from qualitative observation herein provided.

Summary of estimated survival is provided in Table 1. Reference to attached field maps may best elucidate within-site variability of stocking. Areas identified as requiring ESI's immediate attention are the southwest corner of Tallahatchie NWR, (estimated survival < 5% due to impounded water); the easternmost most FmHA Balducci (estimated survival is < 10%); FmHA Staten (estimated survival is 20%); southern tract of FmHA Watts (estimated survival  $\leq$  25%); FmHA Goss ( $\leq$  30% estimated survival). The northeast corner of FmHA Wilkins (estimated survival  $\leq$  30%).

Herbaceous competition is severe. Successful replant efforts should likely entail intensive site preparation to include hipped rows (or modified bedding for row integrity), in combination with over the row band applications of herbicides.

**Table 1. Summary of qualitative evaluation of ESI-related reforestation projects located on North Mississippi Refuges Complex properties. Get Ducks, LLC, August 2003.**

<i>Property Name</i>	<i>Estimated Survival</i>	<i>Comments</i>
Tallahatchie NWR (formerly Bear Lake Unit)	≥ 70%	Area described as situated in the southwest corner of Tallahatchie NWR (#11 on attached field map) has standing water. In the northern portion of this area, where most hardwood regeneration occurs, the water is as deep as 14 inches. The southern portion of the area is void of hardwood regeneration and consists instead of cattails and bullgrass. Remaining areas are excellently stocked, with some trees achieving 4+ ft heights. Species observed include Nuttall, water and willow oaks, persimmon, green ash bald cypress and cherrybark oak.
Field map numbers 1	90%	
2	80%	
3	90%	
4	75%	
5	75%	
6	95%	
7	75%	
8	70%	
9	45%	
10	85%	
11	< 5%	
12	35%	
13	65%	
Dahomey NWR	≥ 50%	Regeneration success and tree growth is much better in the northern than in the southern portion of the planted area. A preponderance of light seeded species in nearby forest areas will eventually mitigate any perceived stocking deficits.
Coldwater NWR (formerly Black Bayou Unit)	≥ 50%	Dispersal of seed by wind and water will likely ensure adequate stocking of these areas, to willow if nothing else; however, fields located on the southeast portion of the planted area were less than 40% stocked. The area located in the south central portion of the area had sufficient stems per acre, but species composition was comprised primarily of lead plant and button bush.
Balducci		The easternmost Balducci is an extremely hydric site and is nearly void of regeneration in the lower areas. Successful regeneration may depend on bald cypress and/or willow plantings
Refer to map East	< 10%	
West	≥ 60%	
Bass (69 acres)	≥ 50%	Accessed from the west. Easternmost portion (not planted) impounded in water.
Bass (278 acres)	≥ 50%	Center most portion is best. Natural regeneration will likely fill in remaining areas that are at this time seemingly understocked.
Bowling	≤ 50%	Regeneration very heavy along river, increasingly sparse away from river; heavy stocking of winged elms. Other species green ash and persimmon. Very heavy buck vine component.

**Table 1. (Continued) Summary of qualitative evaluation of ESI-related reforestation projects located on North Mississippi Refuges Complex properties. Get Ducks, LLC, August 2003.**

<i>Property Name</i>	<i>Estimated Survival</i>	<i>Comments</i>
Butler	≥ 80%	Very heavy stocking of both planted and naturalized species. Species include oaks, sweetgum, green ash, cottonwood and persimmon. This property is unposted; accessed from the north.
Carmicle	≥ 70%	Excellent stand of planted hardwoods.
Goss	30%	This area was evaluated relatively extensively. Regeneration seems concentrated most along borders and ditches where there is a preponderance of naturalized regeneration; with the exception of the northwest portion, where stocking is outstanding, establishment is spotty across the remaining tract.
Hester	≥ 50%	
Kolle	70%	Excellent stand of ESI-planted hardwoods.
Lindsey (160)	≥ 70%	Regeneration consists of naturalized, preexisting planted, and ESI-planted hardwoods.
Lindsey (40)	≥ 50%	Regeneration consists of naturalized, preexisting planted, and ESI-planted hardwoods.
Lindsey (205)	≥ 65%	Regeneration consists of naturalized, preexisting planted, and ESI-planted hardwoods.
Mabus	≥ 70%	n/a
Mackey	≥ 45%	Area situated in northeast property is almost entirely void of hardwood regeneration. Prevalent species include willow, lead plant, Nuttall oak, green ash.
McClure	≥ 55%	Comprised of two separate tracts, each looks outstanding in terms of regeneration.
Pennington 360	≥ 50%	An area in the south central portion of the tract has 10-20% survival. Naturalization will likely fill the void in due time. Species include Nuttall oak, green ash, sumac, willow, and pine.
Powell	≥ 50%	Heavy eastern bacharris component.
Ray	≥ 55%	Best regeneration located on westernmost portion of tract. Some naturalized pine present.
Savage	≥ 80%	Very heavy stocking of both planted and naturalized species. Species include oaks, sweetgum, green ash, cottonwood and persimmon. This property is unposted; planted area best accessed from the north.
Starr 350	45%	Regeneration seemed predominately natural regeneration. Species included sweetgum, winged elm green ash, willow, willow and Nuttall oaks. Some naturalized pine present.

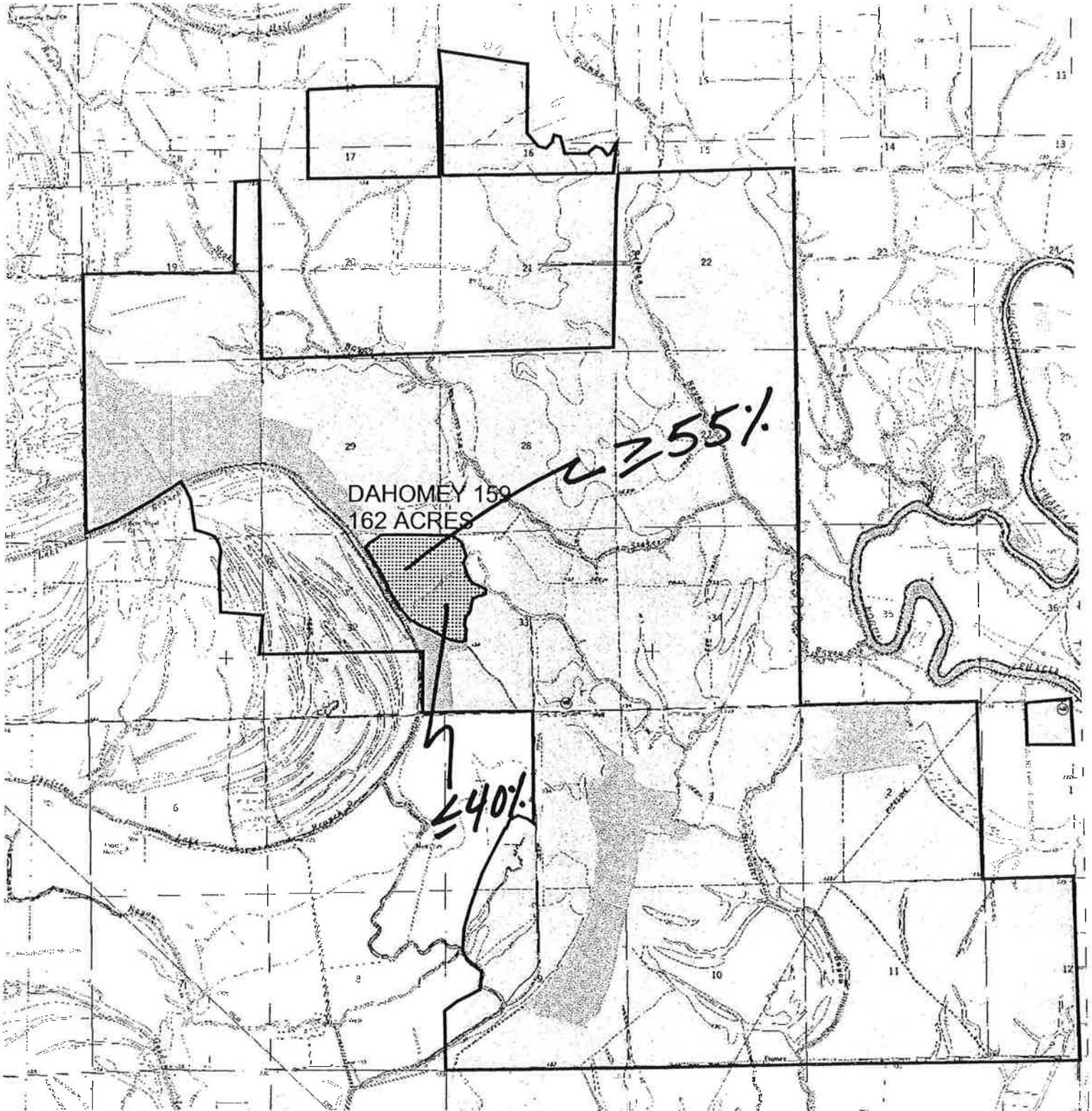


**Table 1. (Continued) Summary of qualitative evaluation of ESI-related reforestation projects located on North Mississippi Refuges Complex properties. Get Ducks, LLC, August 2003.**

<i>Property Name</i>	<i>Estimated Survival</i>	<i>Comments</i>
Starr 750	45%	Regeneration seemed predominately natural regeneration. Species included sweetgum, winged elm green ash, willow, willow and Nuttall oaks
Staten	≤ 20%	Few planted seedlings observed. Majority of estimate comprised of naturalized green ash, persimmon, and button bush.
Trainor	≥ 85%	The tract looks excellent and consists primarily of oaks and ash from both previous and ESI-related planting. Vehicular access from the east is presently blocked with cross ties.
Walker	≥ 75%	The tract looks excellent and consists primarily of oaks and ash from both previous and ESI-related planting.
Watts	≤ 25%	The southernmost tract was especially poor with 20% stocking or less. Stocking seemed slightly greater on the northernmost tract despite heavy vine component.
Whaley	≥ 65%	Regeneration increasingly heavy as move toward river. Very heavy component of naturalized species, including some pine.
Wilkins	≥ 70%	With exception of one problem area, regeneration here is spectacular: pre-existing naturally and artificially regenerated oaks and light seeded species intermixed with generally very good stocking of ESI-planted hardwoods throughout. Area situated in northwest portion of property has ≤ 30% stocking consisting almost entirely of planted green ash. Conspicuously absent in this area are naturalized hardwood trees, which are densely established elsewhere adjacent to and surrounding this area.

# ESI / ILLINOVA REFORESTATION PROJECT DAHOMY NWR

NO. MISS.

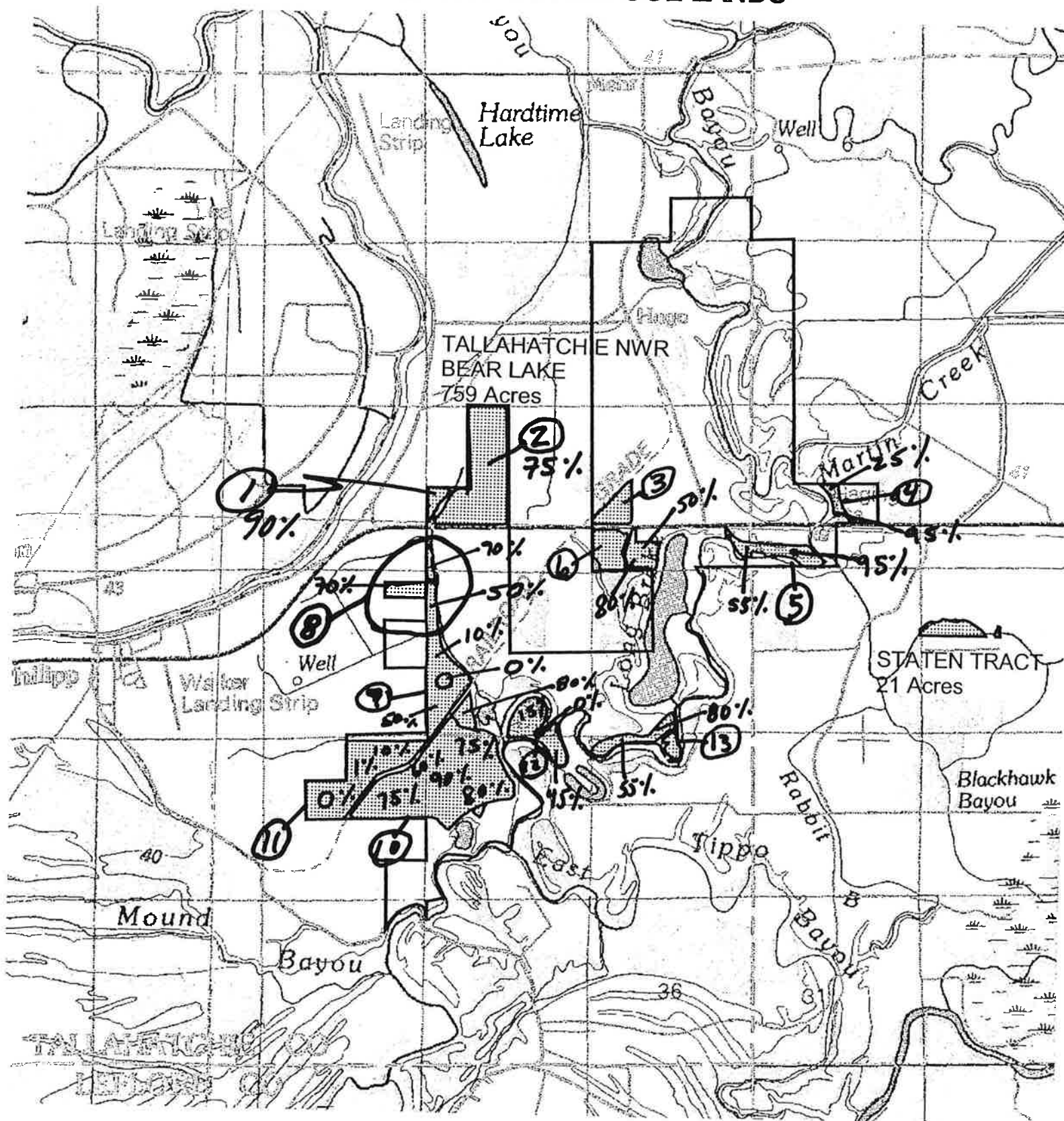


- National Wildlife Refuge System
- ESI / ILLINOVA Reforestation 1999-2000
- Existing Forest

0 0.8 1.6 2.4 3.2 4 Miles



# ESI / ILLINOVA REFORESTATION PROJECT NORTH MISSISSIPPI REFUGE LANDS

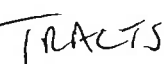


- National Wildlife Refuge System
- ESI / ILLINOVA Reforestation 1999-2000
- Existing Forest

0 1 2 3 4 Miles



Fm HA / FSA



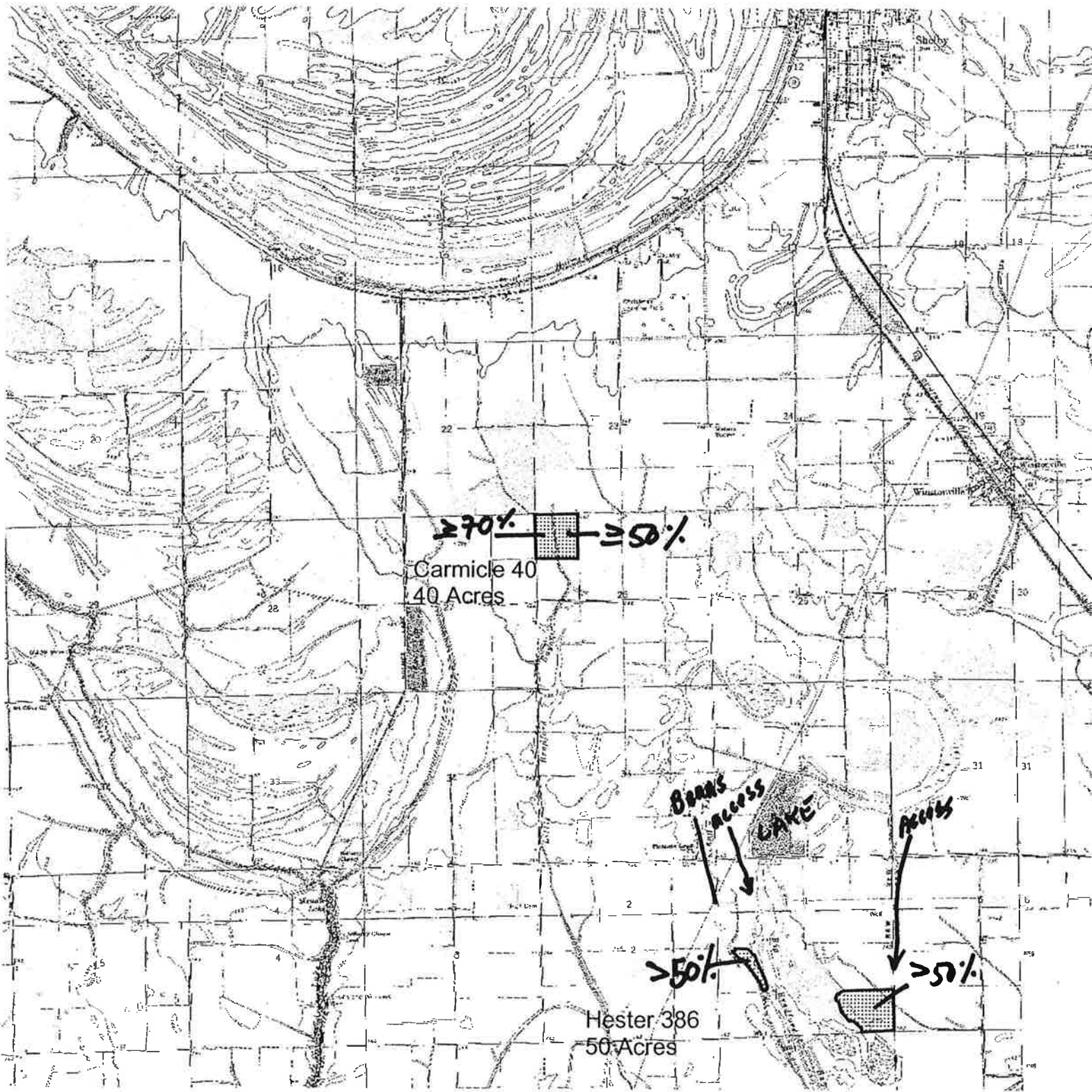


Topographic map of the Bowling Tract area in Louisiana. The map shows the following features:

- Water Bodies:** Roundaway Bayou, Moorhead Bayou, and the River.
- Shaded Areas:** A large rectangular area labeled "BOWLING TRACT 170 Acres" is shaded. Within this area, there are handwritten annotations: "40%", "290", and ">80%".
- Grid and Coordinates:** The map is overlaid with a grid. Township markings include "T 19 N" and "T 18 N". Longitude markings include "37" and "36".
- Other Features:** "Fish Farms" are located to the east of the Bowling Tract. "Gaging Station" is marked near the bottom right. "Moorhead" is labeled near the bottom center.
- Section Numbers:** Various section numbers are visible, including 36, 35, 31, and 37.

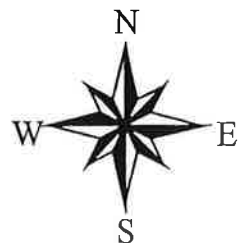


# ESI / ILLINOVA REFORESTATION PROJECT NORTH MISSISSIPPI REFUGE LANDS

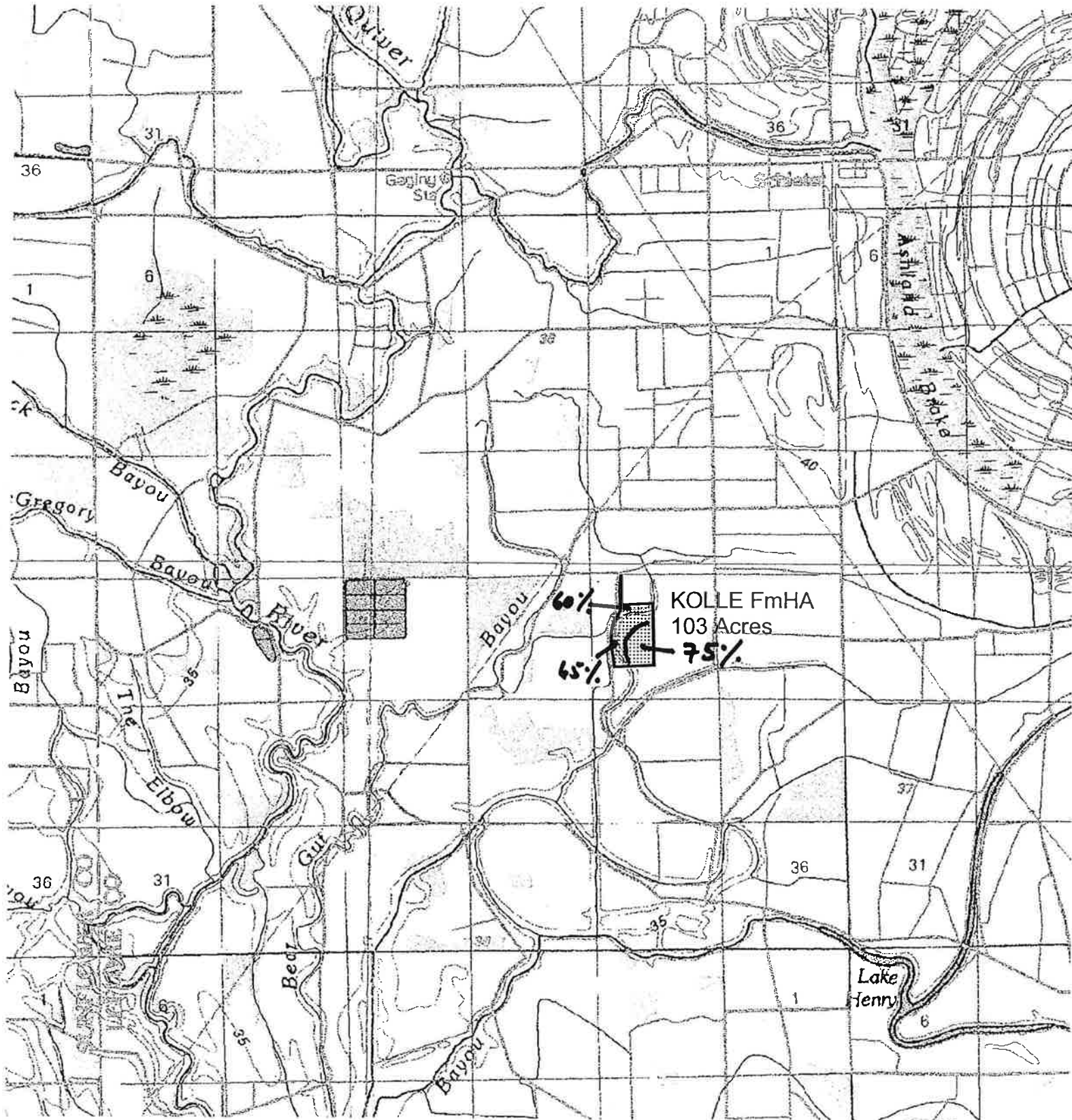


-  National Wildlife Refuge System
-  ESI / ILLINOVA Reforestation 1999-2000
-  Existing Forest

0 1 2 3 Miles

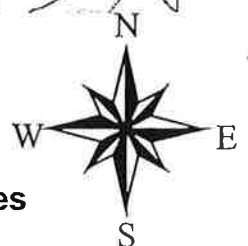


# ESI / ILLINOVA REFORESTATION PROJECT NORTH MISSISSIPPI REFUGE LANDS



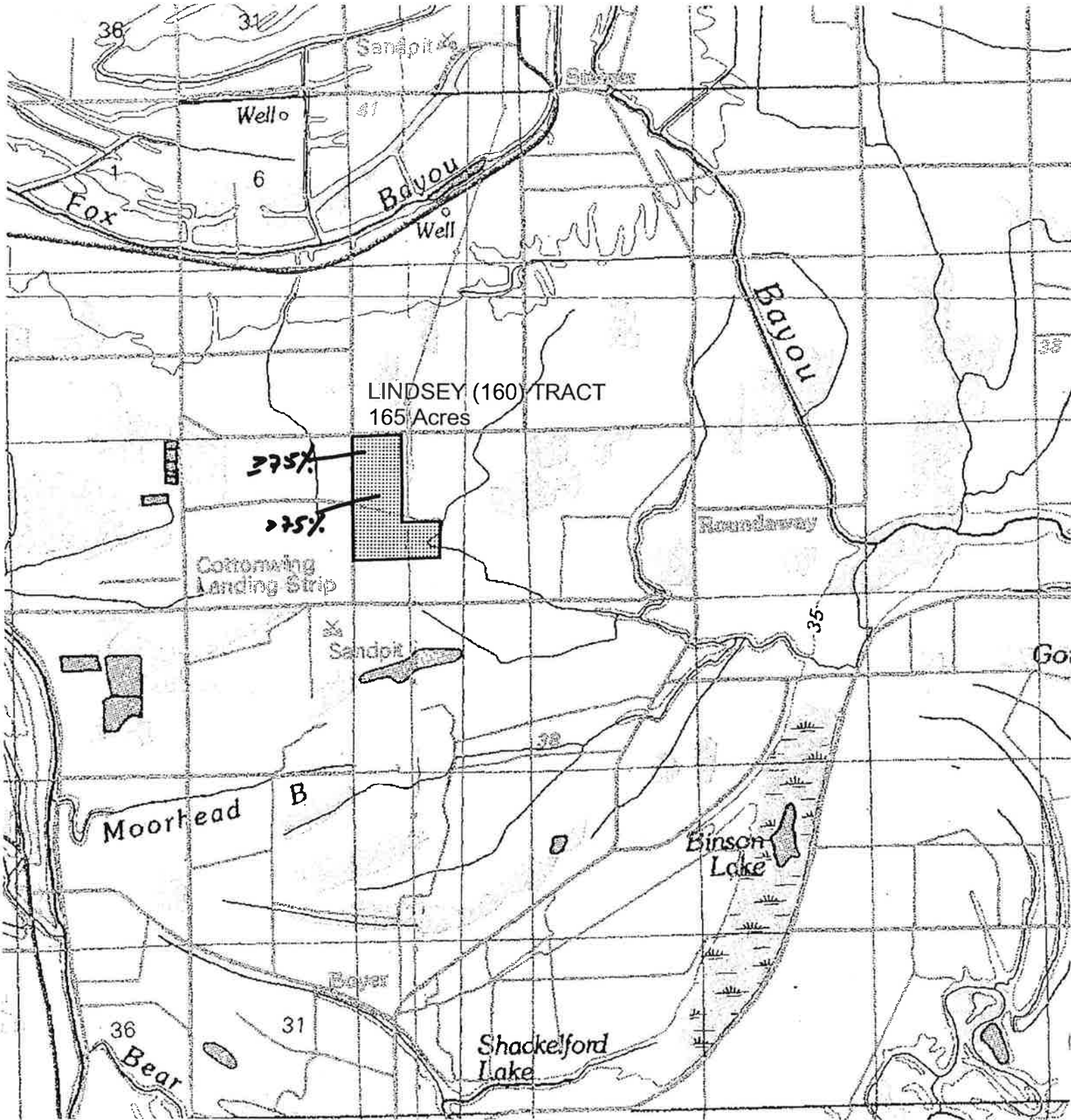
 ESI / ILLINOVA Reforestation 1999-2000  
 Existing Forest

0 2 4 6 Miles



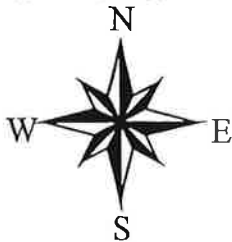


ESI / ILLINOVA REFORESTATION PROJECT  
NORTH MISSISSIPPI REFUGE LANDS



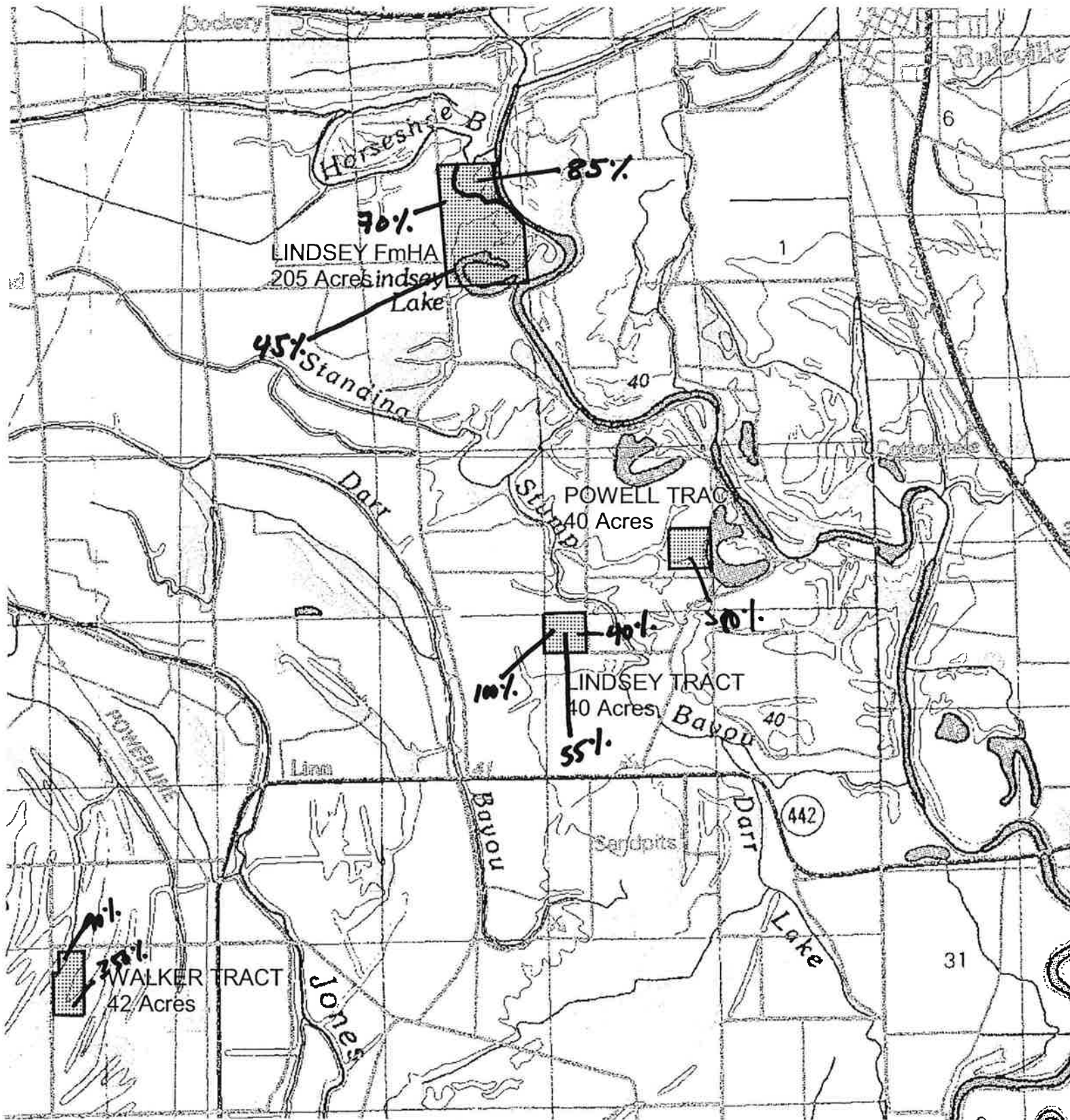
 ESI / ILLINOVA Reforestation 1999-2000  
 Existing Forest

0 1 2 3 4 Miles





# ESI / ILLINOVA REFORESTATION PROJECT NORTH MISSISSIPPI REFUGE LANDS

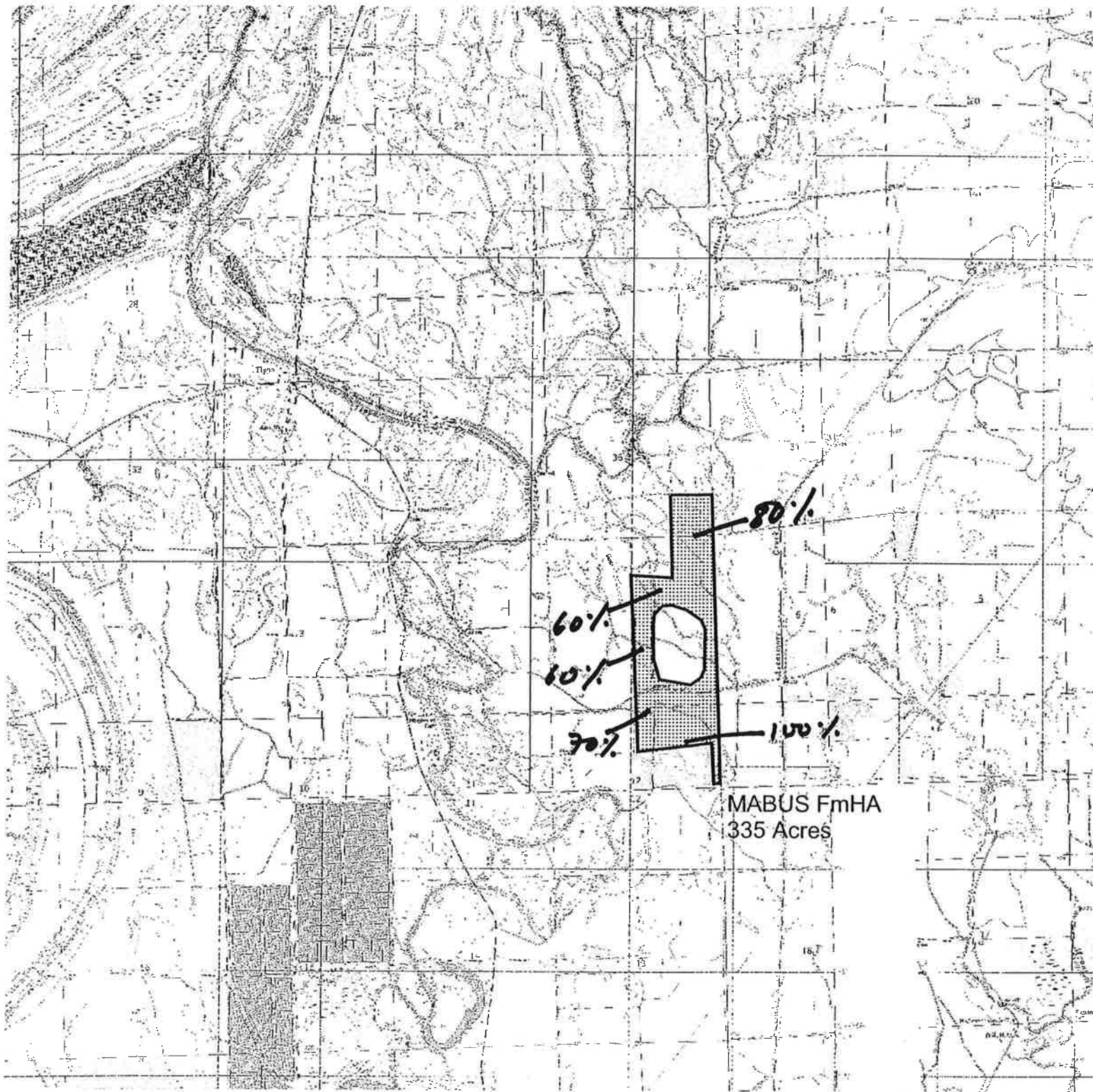


 ESI / ILLINOVA Reforestation 1999-2000  
 Existing Forest

0 2 4 Miles

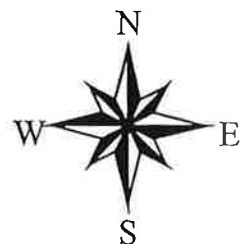


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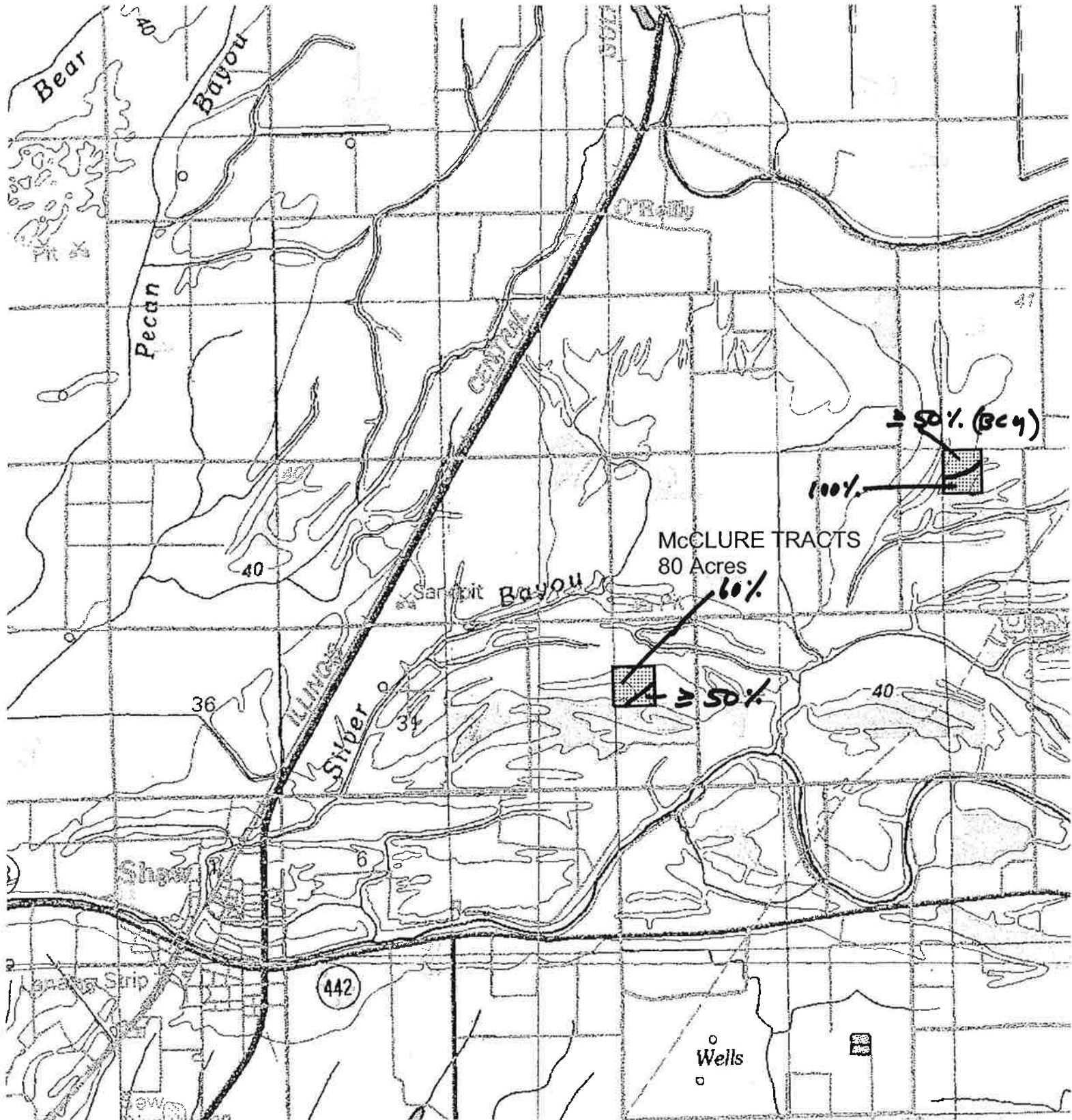


- National Wildlife Refuge System
- ESI / ILLINOVA Reforestation 1999-2000
- Existing Forest

0 1 2 3 Miles



# ESI / ILLINOVA REFORESTATION PROJECT NORTH MISSISSIPPI REFUGE LANDS



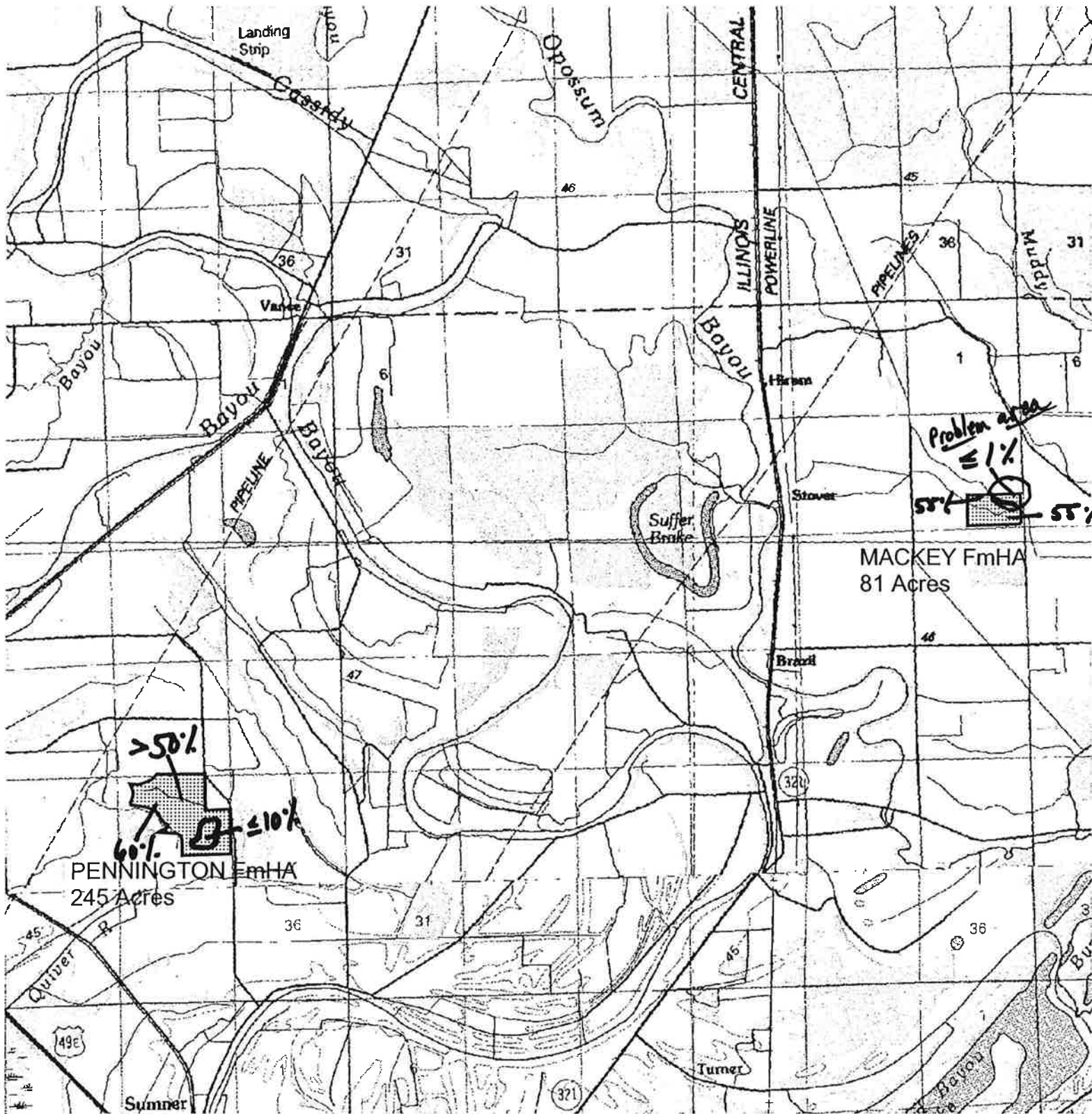
 ESI / ILLINOVA Reforestation 1999-2000  
 Existing Forest

0 2 4 Miles





# ESI / ILLINOVA REFORESTATION PROJECT NORTH MISSISSIPPI REFUGE LANDS

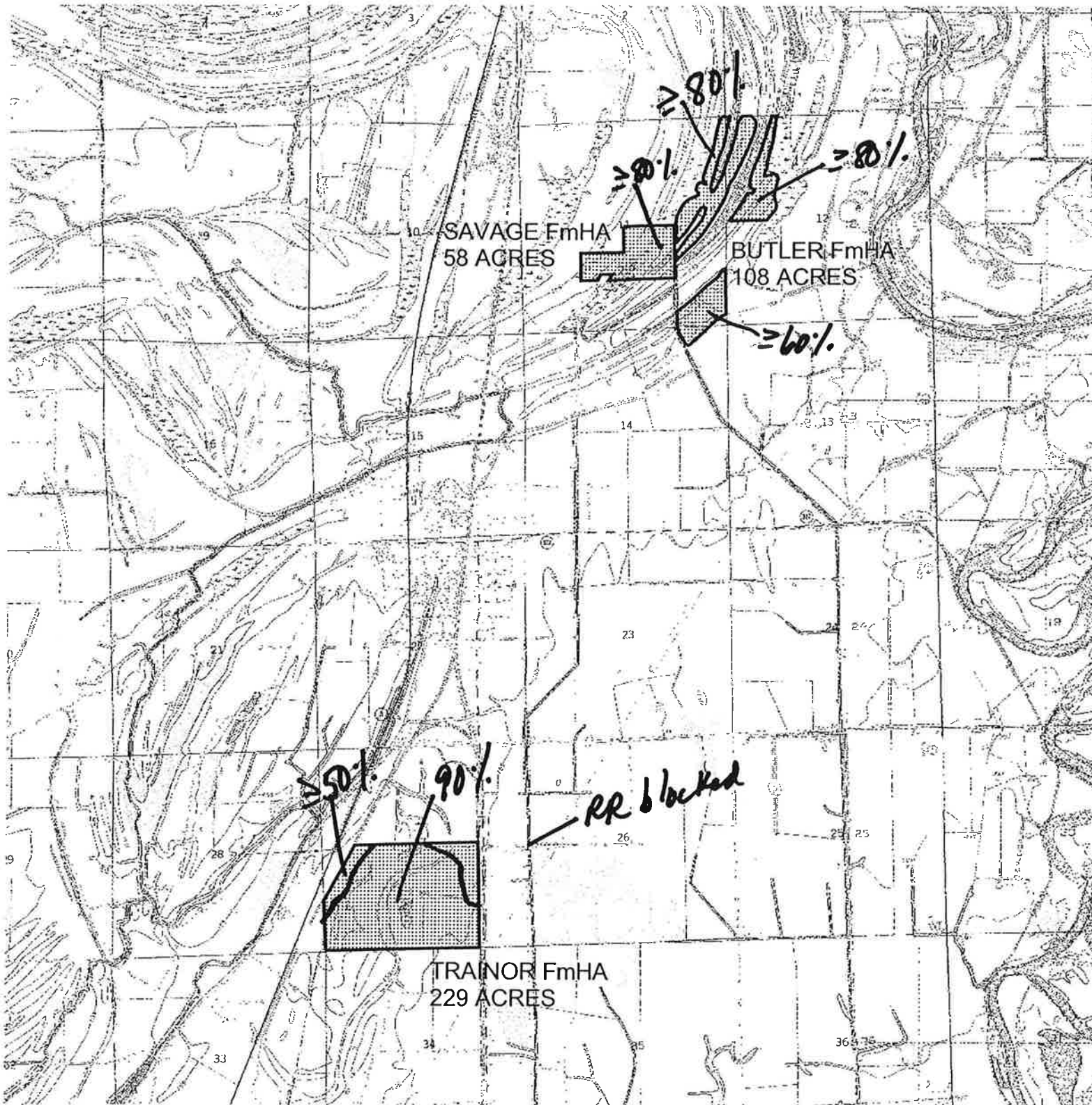


 ESI / ILLINOVA Reforestation 1999-2000  
 Existing Forest

0 2 4 6 Miles



# ESI / ILLINOVA REFORESTATION PROJECT NORTH MISSISSIPPI REFUGE LANDS



 ESI / ILLINOVA REFORESTATION 1999-2000  
 Existing Forest

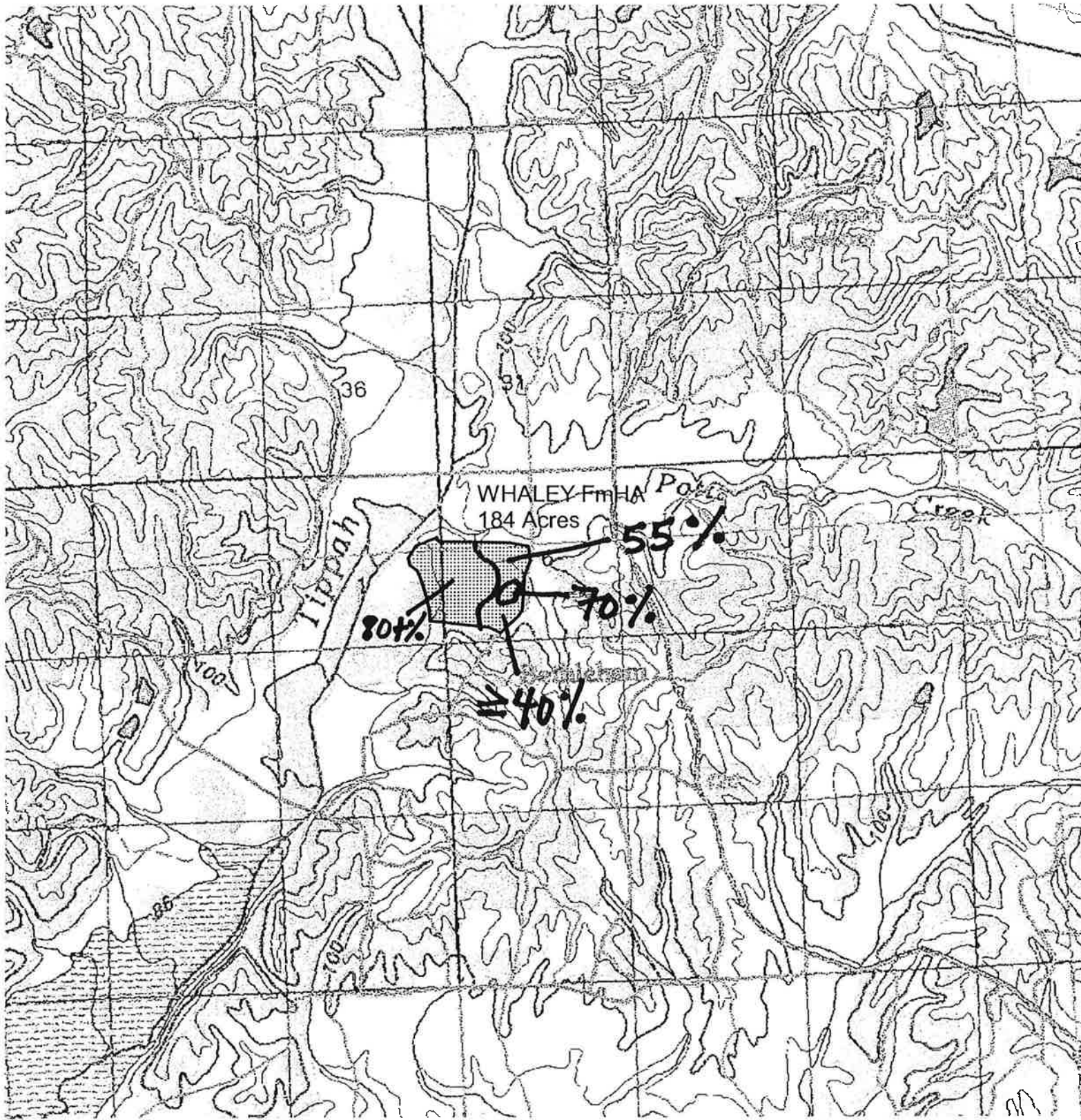
0 0.4 0.8 1.2 1.6 2 Miles



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# ESI / ILLINOVA REFORESTATION PROJECT NORTH MISSISSIPPI REFUGE LANDS



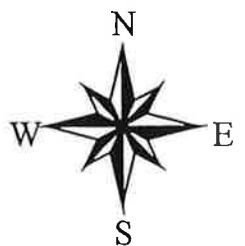
ESI / ILLINOVA Reforestation 1999-2000  
Existing Forest

0 0.9 1.8 2.7 Miles



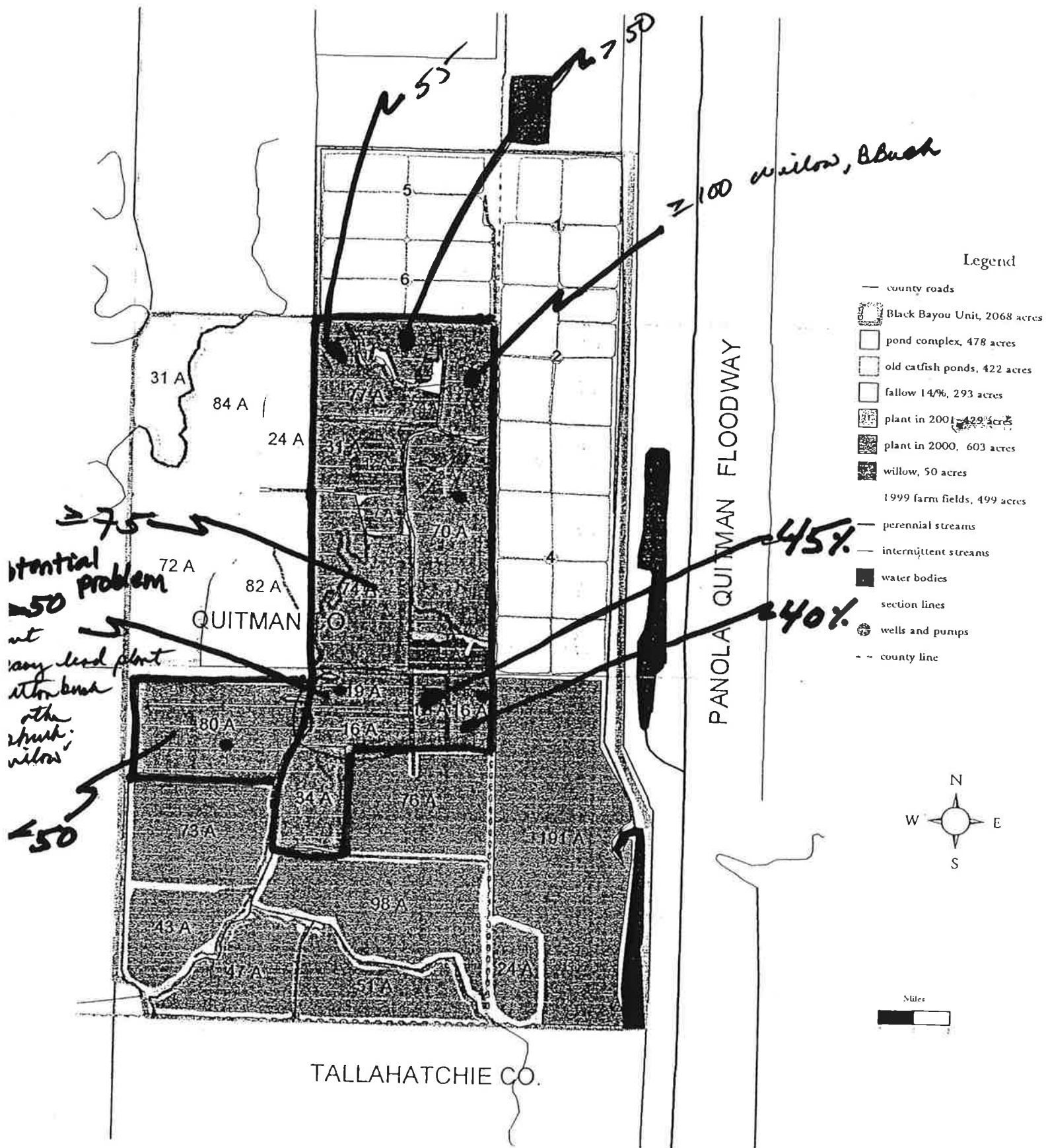
Topographic map of the Wilkins Farm Home Area (FmHA) in the Wilcox River watershed. The map shows land ownership, water bodies, and various annotations. Key features include:

- Wilkins FmHA 699 Acres**: A large shaded area in the center of the map.
- Problem area  $\leq 30\%$** : A handwritten annotation pointing to a specific area in the upper left.
- Areas of 100% planted success**: A handwritten annotation pointing to a specific area in the lower left.
- Percentage labels**: Various handwritten percentages (40%, 30%, 70%, 55%, 30%, 100%,  $\geq 75$ ,  $\geq 70$ ,  $\geq 100\%$ ) pointing to different areas on the map.
- Geographic features**: Contour lines, roads, and labels for 'Parchman', 'Blue Lake', and 'Wilcox River'.
- Infrastructure**: Labels for 'SUNFLOWER CO', 'TALLAHATCHIE CO', 'PIPELINES', 'WOODEN POLE TRANS L', and 'SPOIL BANK'.
- Other labels**: 'Well 1427', 'Well 1428', 'Well 1429', 'Well 1430', 'Well 1431', 'Well 1432', 'Well 1433', 'Well 1434', 'Well 1435', 'Well 1436', 'Well 1437', 'Well 1438', 'Well 1439', 'Well 1440', 'Well 1441', 'Well 1442', 'Well 1443', 'Well 1444', 'Well 1445', 'Well 1446', 'Well 1447', 'Well 1448', 'Well 1449', 'Well 1450', 'Well 1451', 'Well 1452', 'Well 1453', 'Well 1454', 'Well 1455', 'Well 1456', 'Well 1457', 'Well 1458', 'Well 1459', 'Well 1460', 'Well 1461', 'Well 1462', 'Well 1463', 'Well 1464', 'Well 1465', 'Well 1466', 'Well 1467', 'Well 1468', 'Well 1469', 'Well 1470', 'Well 1471', 'Well 1472', 'Well 1473', 'Well 1474', 'Well 1475', 'Well 1476', 'Well 1477', 'Well 1478', 'Well 1479', 'Well 1480', 'Well 1481', 'Well 1482', 'Well 1483', 'Well 1484', 'Well 1485', 'Well 1486', 'Well 1487', 'Well 1488', 'Well 1489', 'Well 1490', 'Well 1491', 'Well 1492', 'Well 1493', 'Well 1494', 'Well 1495', 'Well 1496', 'Well 1497', 'Well 1498', 'Well 1499', 'Well 1500'.





**COLDWATER NATIONAL WILDLIFE REFUGE**  
**QUITMAN, AND TALLAHATCHIE COUNTIES, MISSISSIPPI**  
**PROPOSED TREE PLANTING SCHEDULE FOR 2000-2001**



## **QUALITATIVE ASSESSMENT OF ESI REFORESTATION SUCCESS ON NMRC PROPERTIES**

Prepared:  
September 8, 2003

For Client:  
Mr. Stephen W. Gard  
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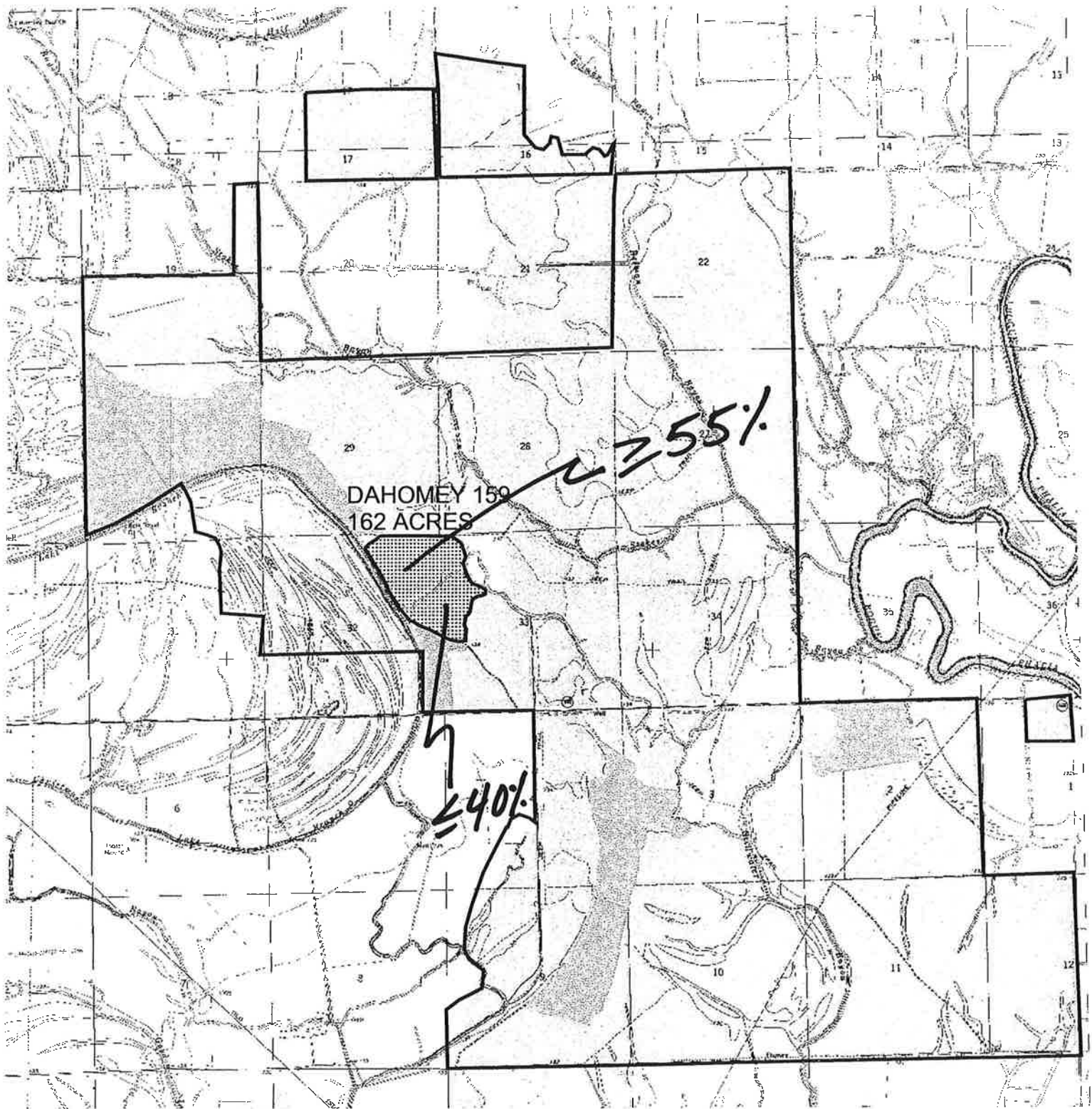
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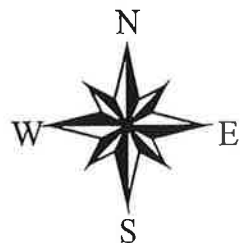
# ESI / ILLINOVA REFORESTATION PROJECT DAHOMEY NWR

NO. MISS.

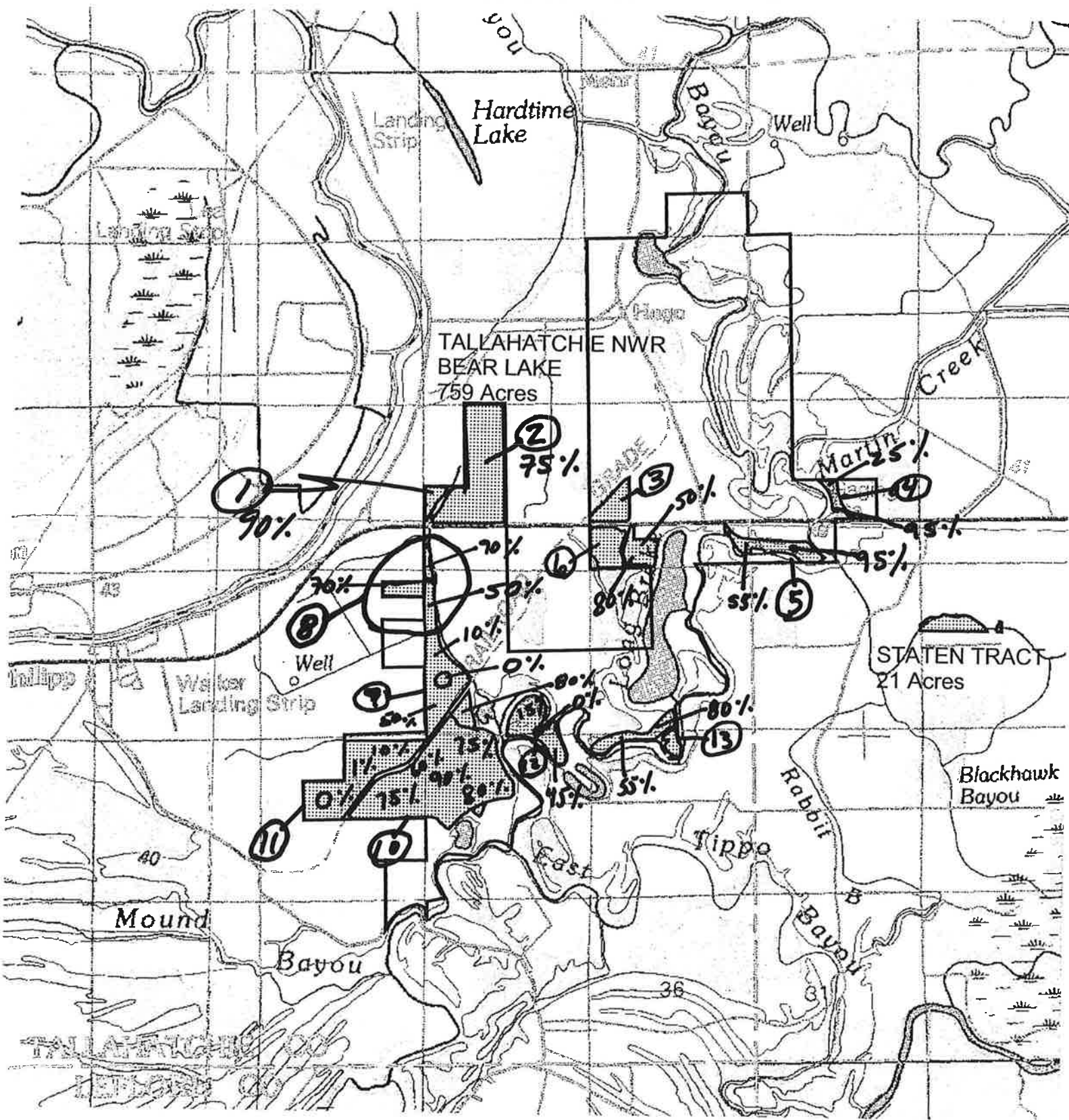


-  National Wildlife Refuge System
-  ESI / ILLINOVA Reforestation 1999-2000
-  Existing Forest

0 0.8 1.6 2.4 3.2 4 Miles

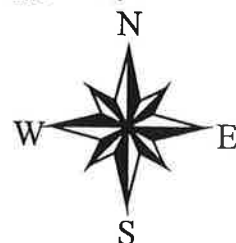


# ESI / ILLINOVA REFORESTATION PROJECT NORTH MISSISSIPPI REFUGE LANDS



-  National Wildlife Refuge System
-  ESI / ILLINOVA Reforestation 1999-2000
-  Existing Forest

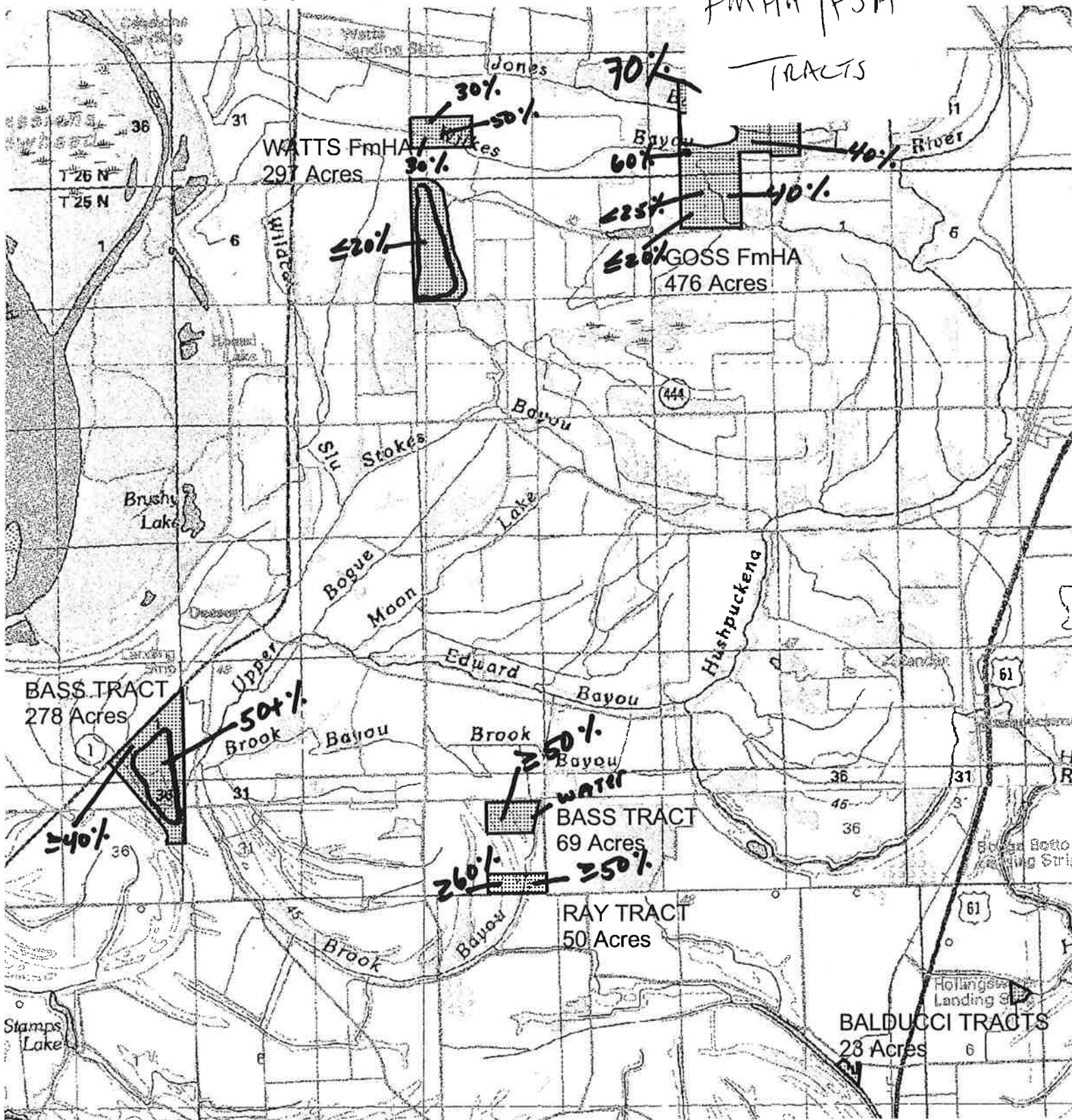
0 1 2 3 4 Miles





# ESI / ILLINOVA REFORESTATION | NORTH MISSISSIPPI REFUGE |

FmHA / FSA

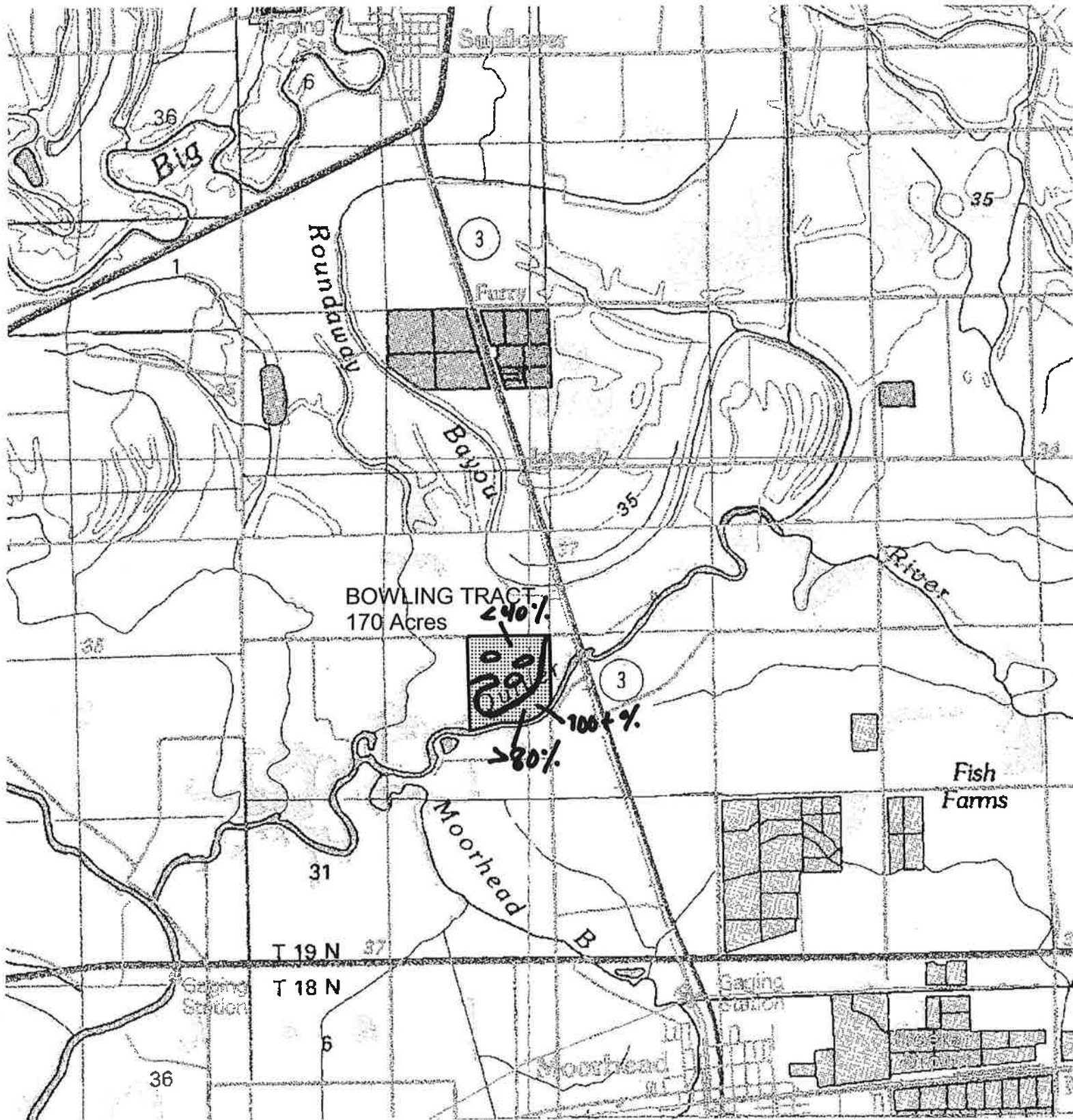


ESI / ILLINOVA Reforestation 1999-2000  
 Existing Forest

0 3 6 Miles



# ESI / ILLINOVA REFORESTATION PROJECT NORTH MISSISSIPPI REFUGE LANDS

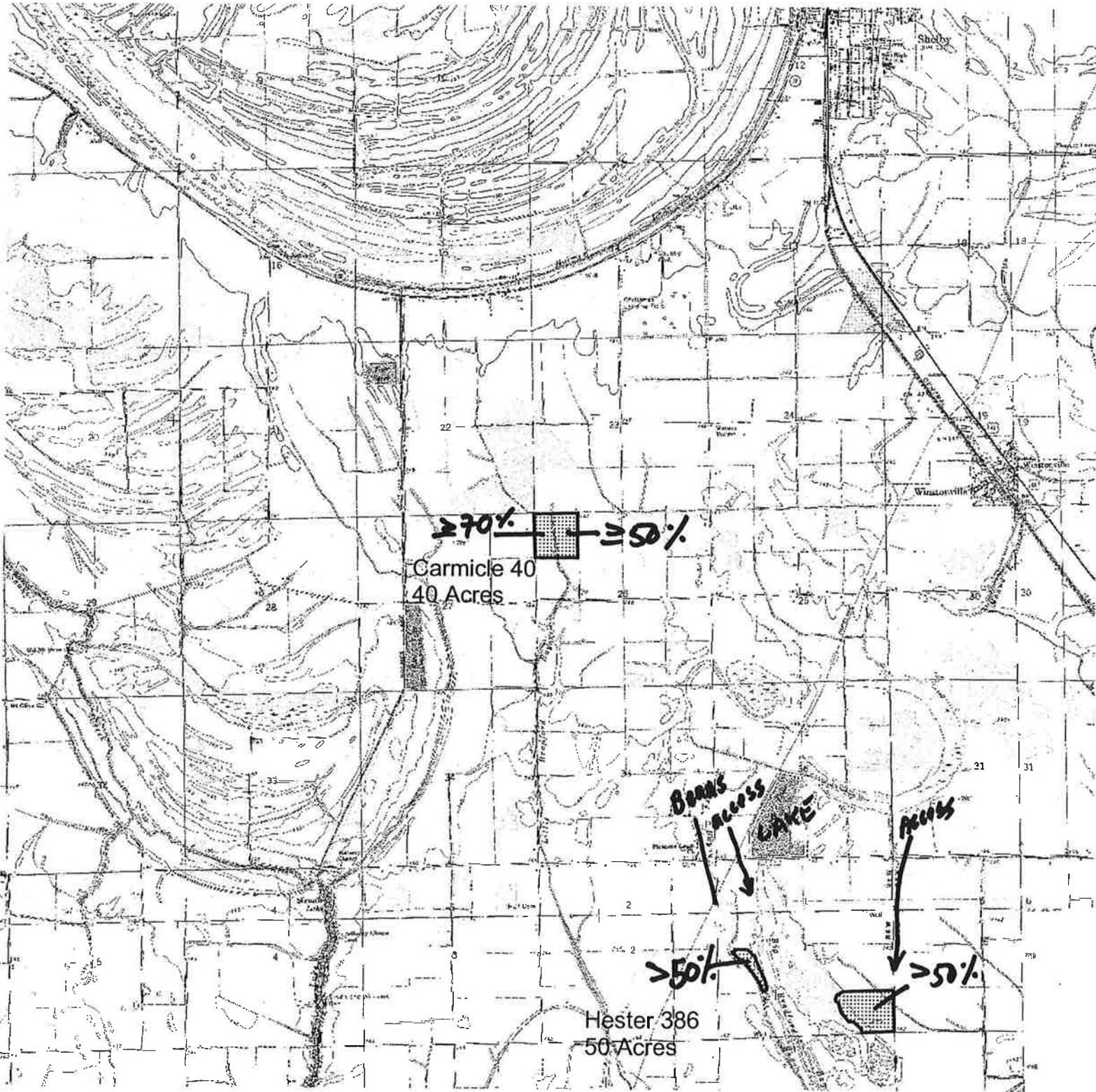


 ESI / ILLINOVA Reforestation 1999-2000  
 Existing Forest

0 2 4 Miles

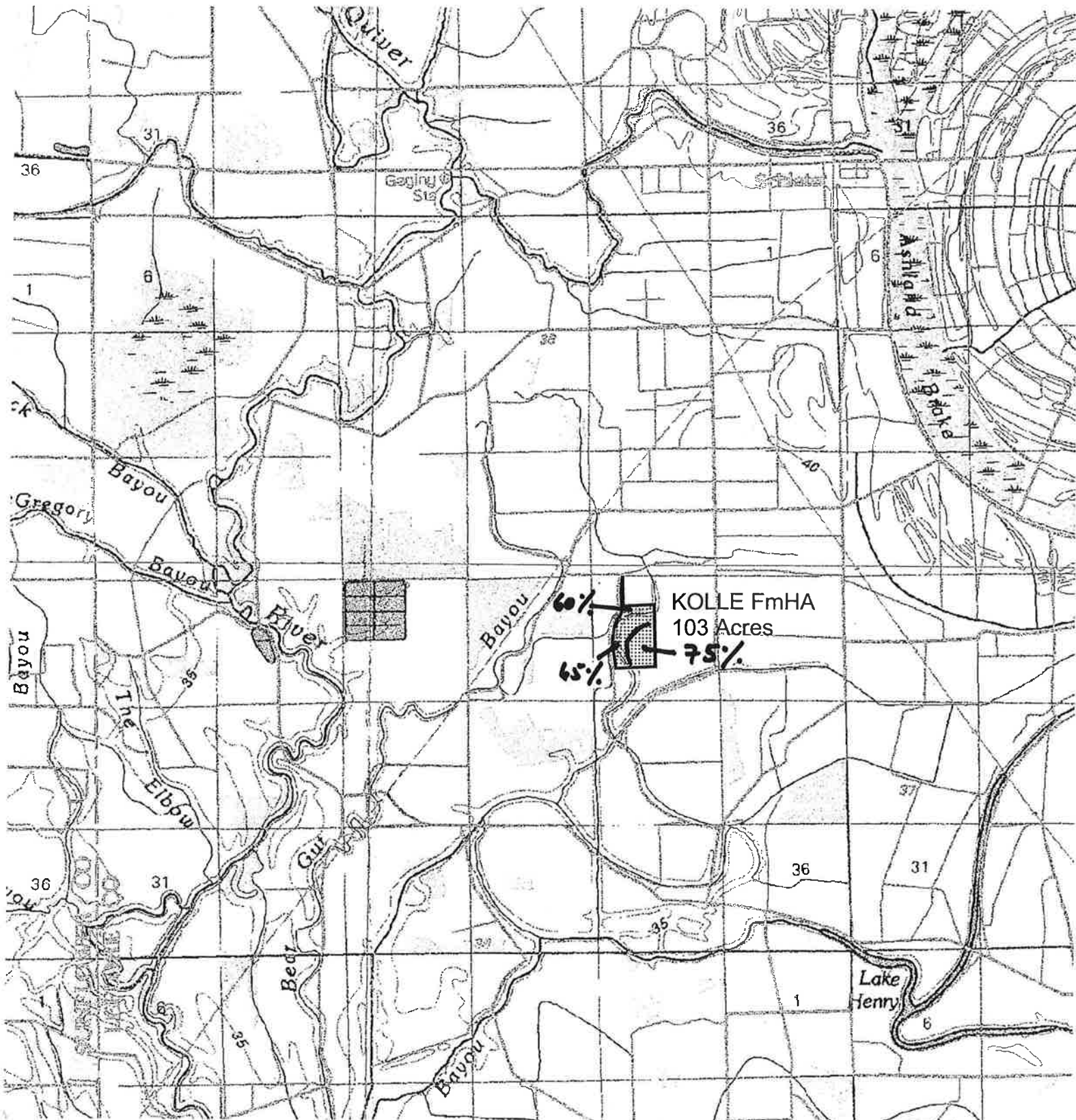


# ESI / ILLINOVA REFORESTATION PROJECT NORTH MISSISSIPPI REFUGE LANDS





# ESI / ILLINOVA REFORESTATION PROJECT NORTH MISSISSIPPI REFUGE LANDS



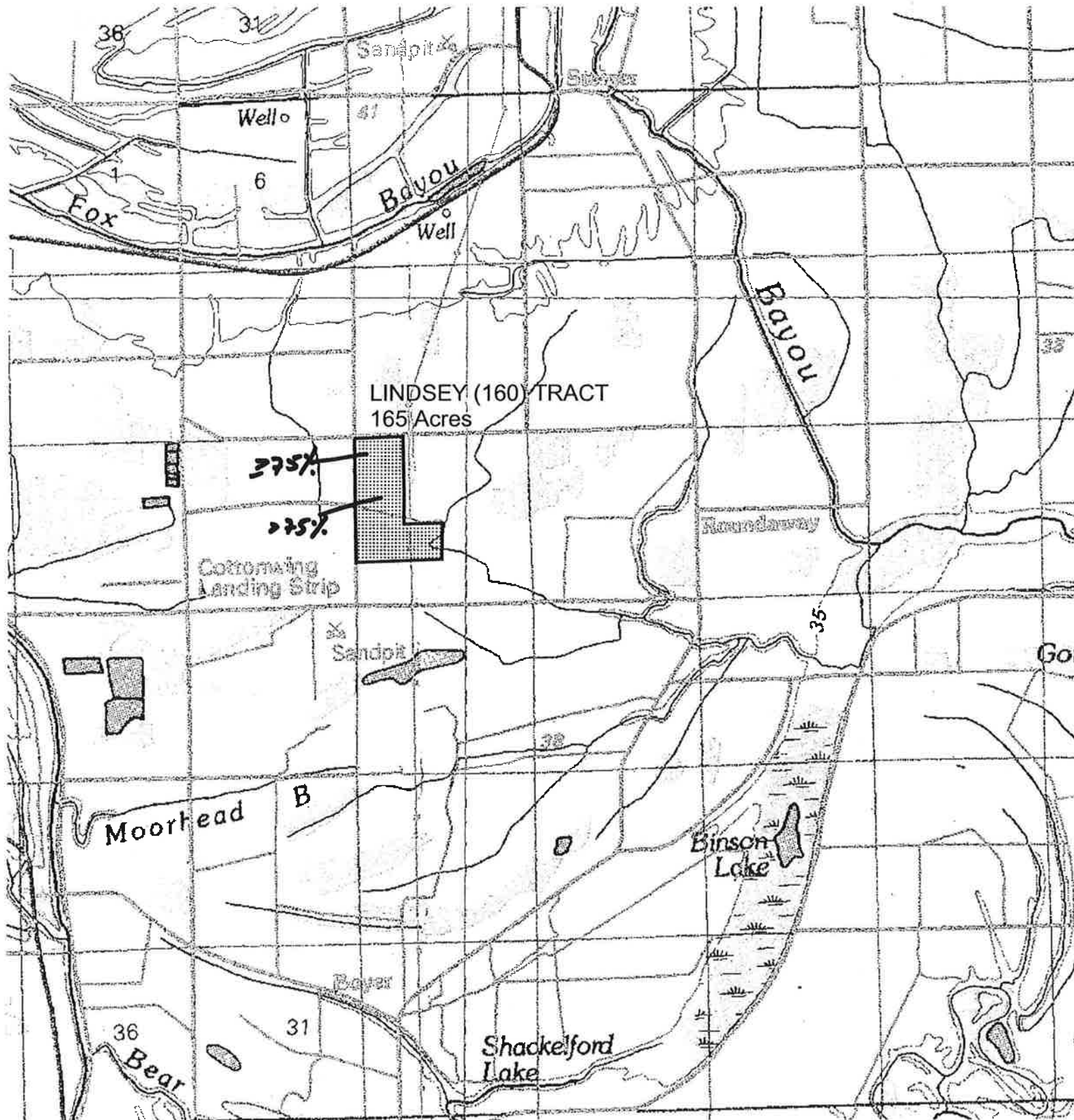
 ESI / ILLINOVA Reforestation 1999-2000  
 Existing Forest

0 2 4 6 Miles





# ESI / ILLINOVA REFORESTATION PROJECT NORTH MISSISSIPPI REFUGE LANDS

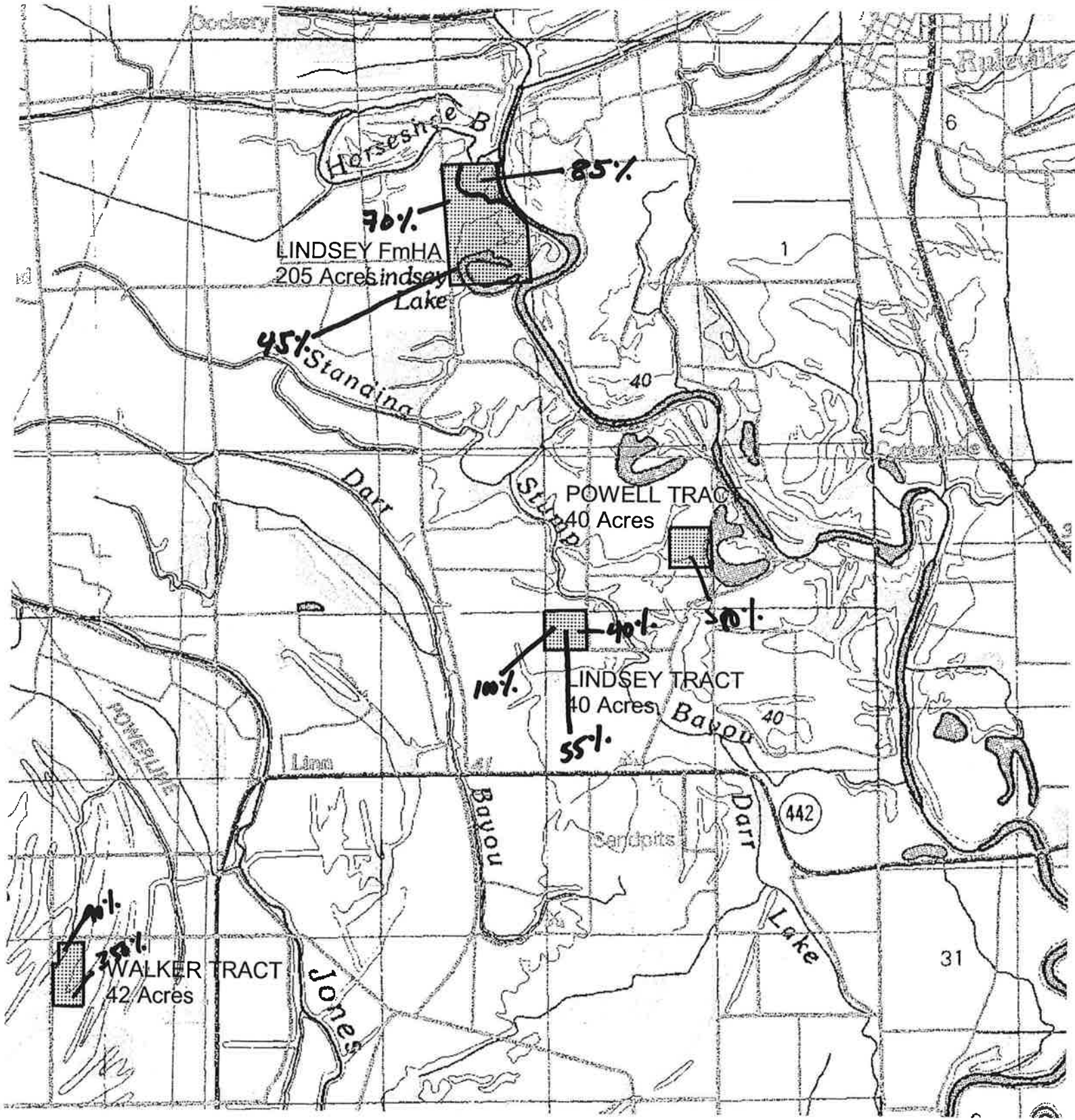


 ESI / ILLINOVA Reforestation 1999-2000  
 Existing Forest

0 1 2 3 4 Miles



# ESI / ILLINOVA REFORESTATION PROJECT NORTH MISSISSIPPI REFUGE LANDS

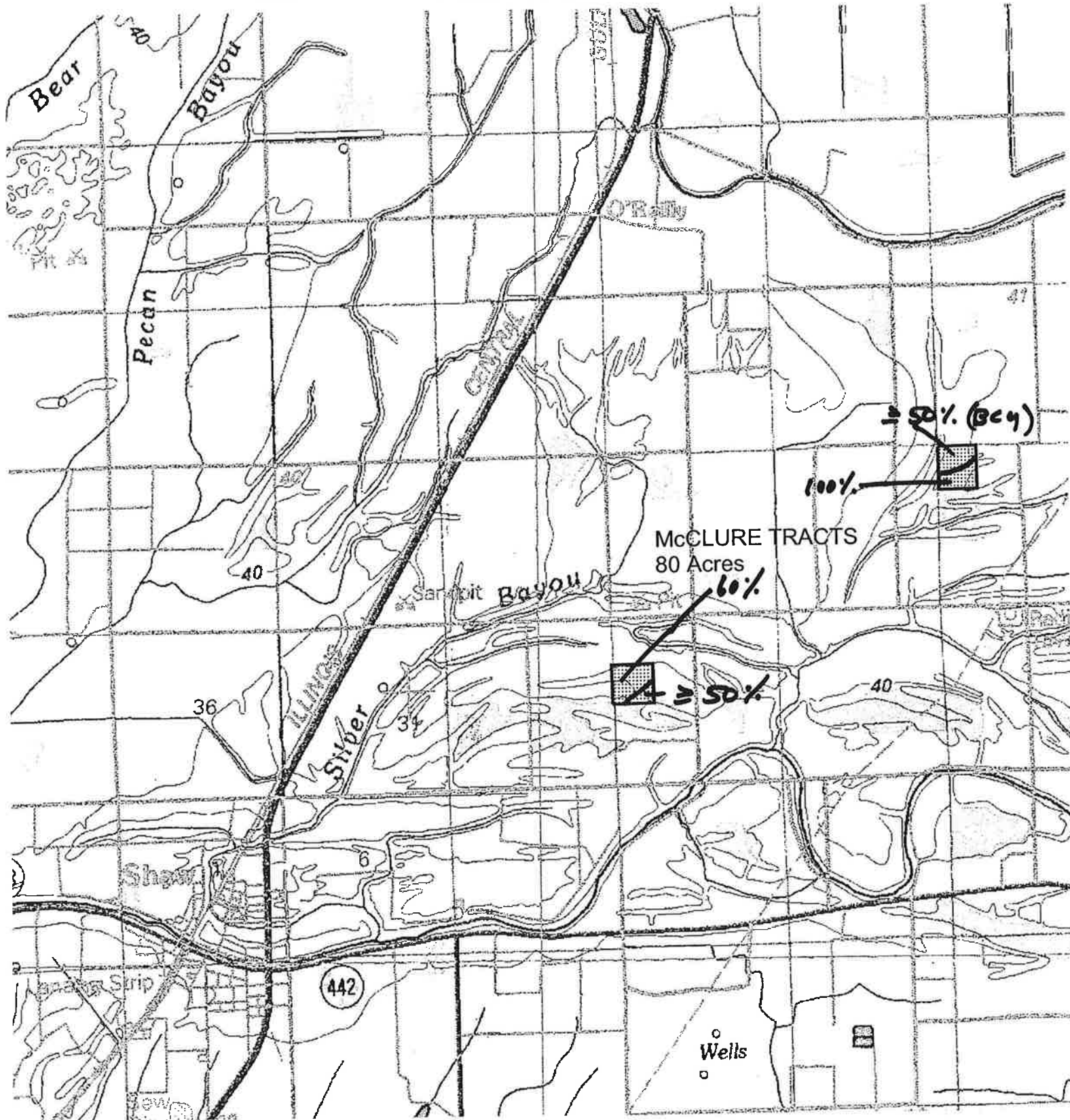


 ESI / ILLINOVA Reforestation 1999-2000  
 Existing Forest

0 2 4 Miles



# ESI / ILLINOVA REFORESTATION PROJECT NORTH MISSISSIPPI REFUGE LANDS



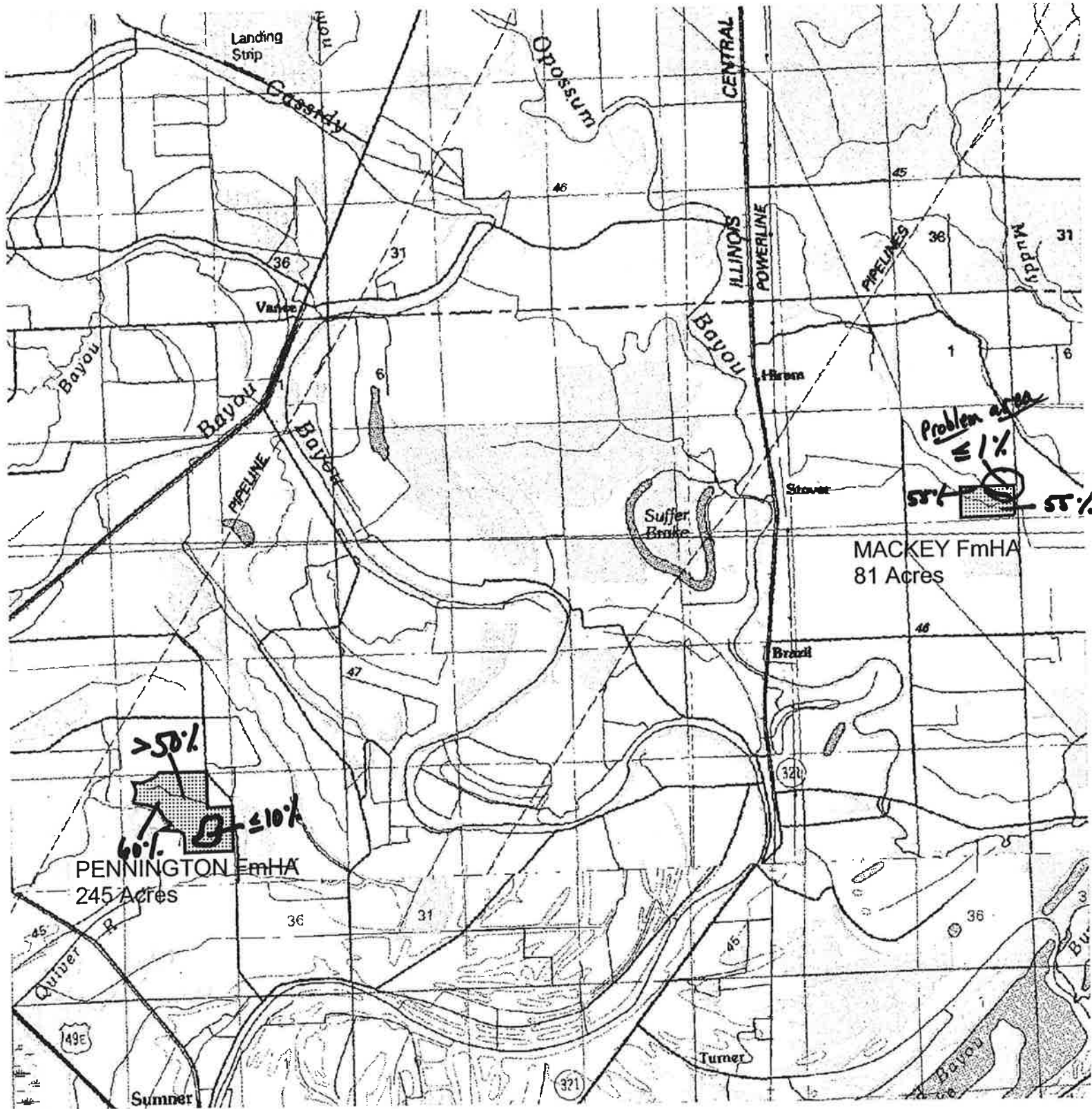
 ESI / ILLINOVA Reforestation 1999-2000  
 Existing Forest

0 2 4 Miles



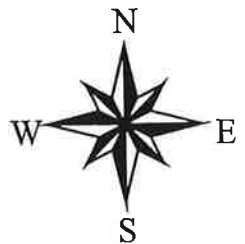


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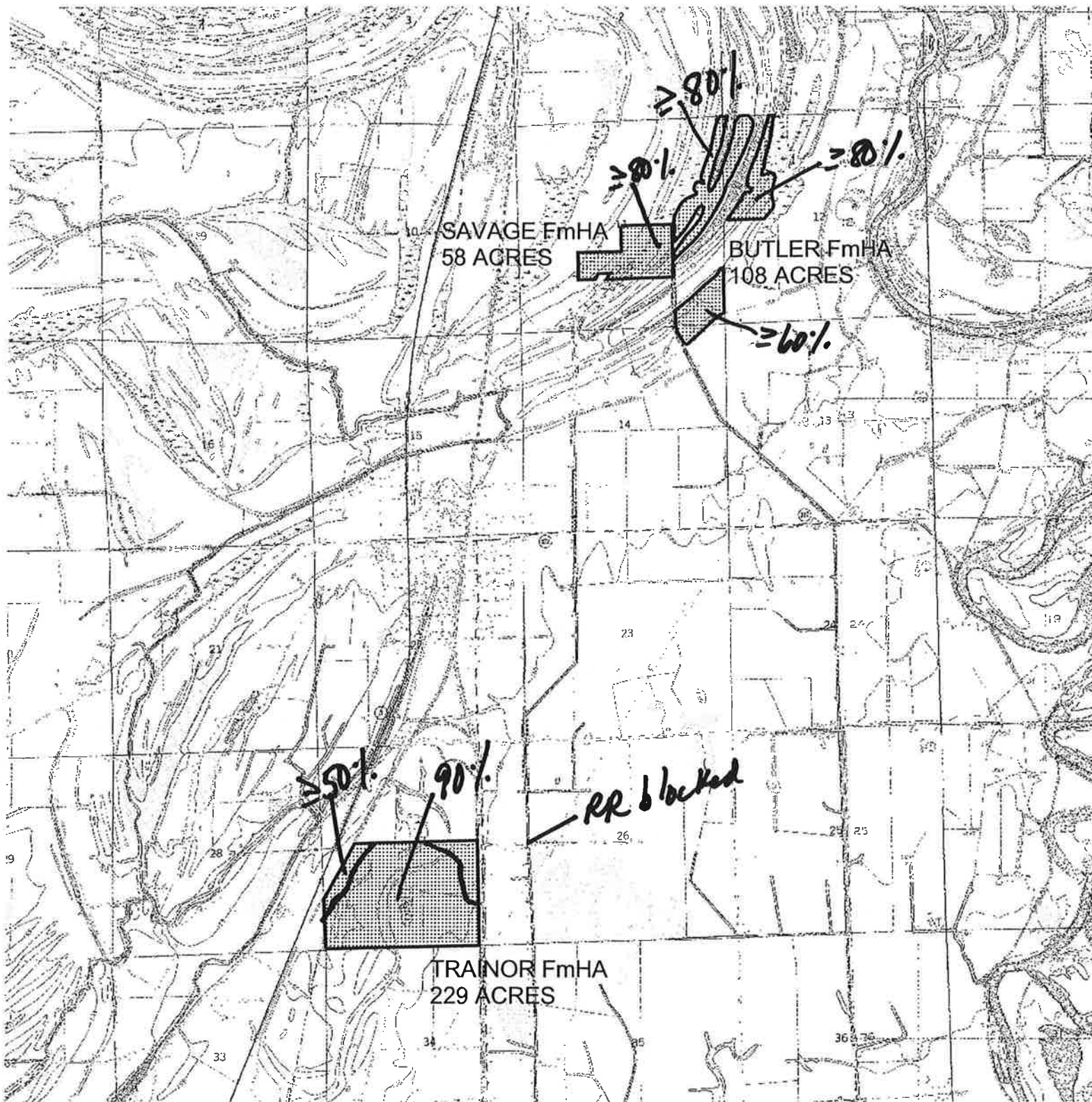


 ESI / ILLINOVA Reforestation 1999-2000  
 Existing Forest

0 2 4 6 Miles



# ESI / ILLINOVA REFORESTATION PROJECT NORTH MISSISSIPPI REFUGE LANDS



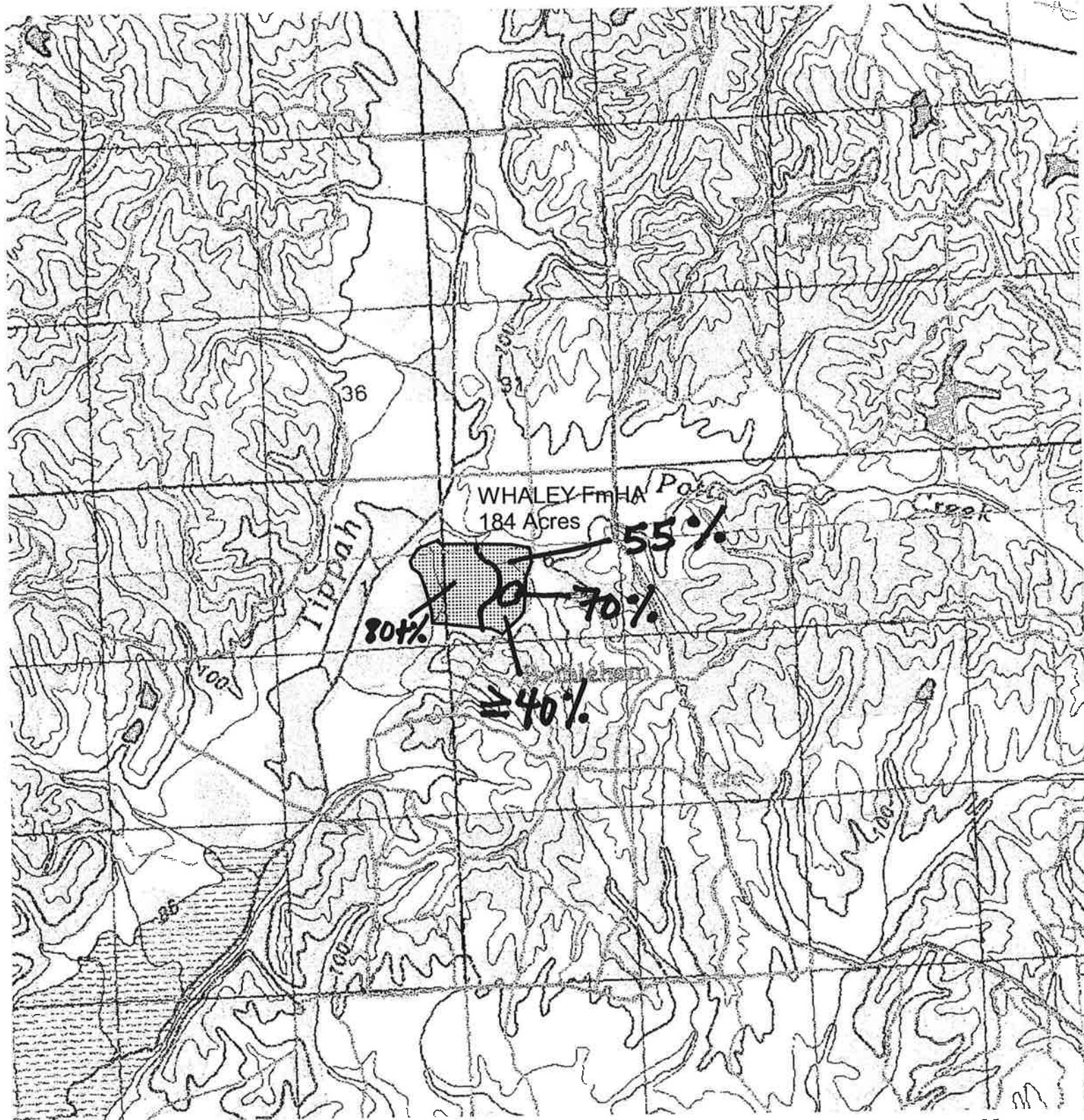
 ESI / ILLINOVA REFORESTATION 1999-2000  
 Existing Forest

0 0.4 0.8 1.2 1.6 2 Miles





# ESI / ILLINOVA REFORESTATION PROJECT NORTH MISSISSIPPI REFUGE LANDS

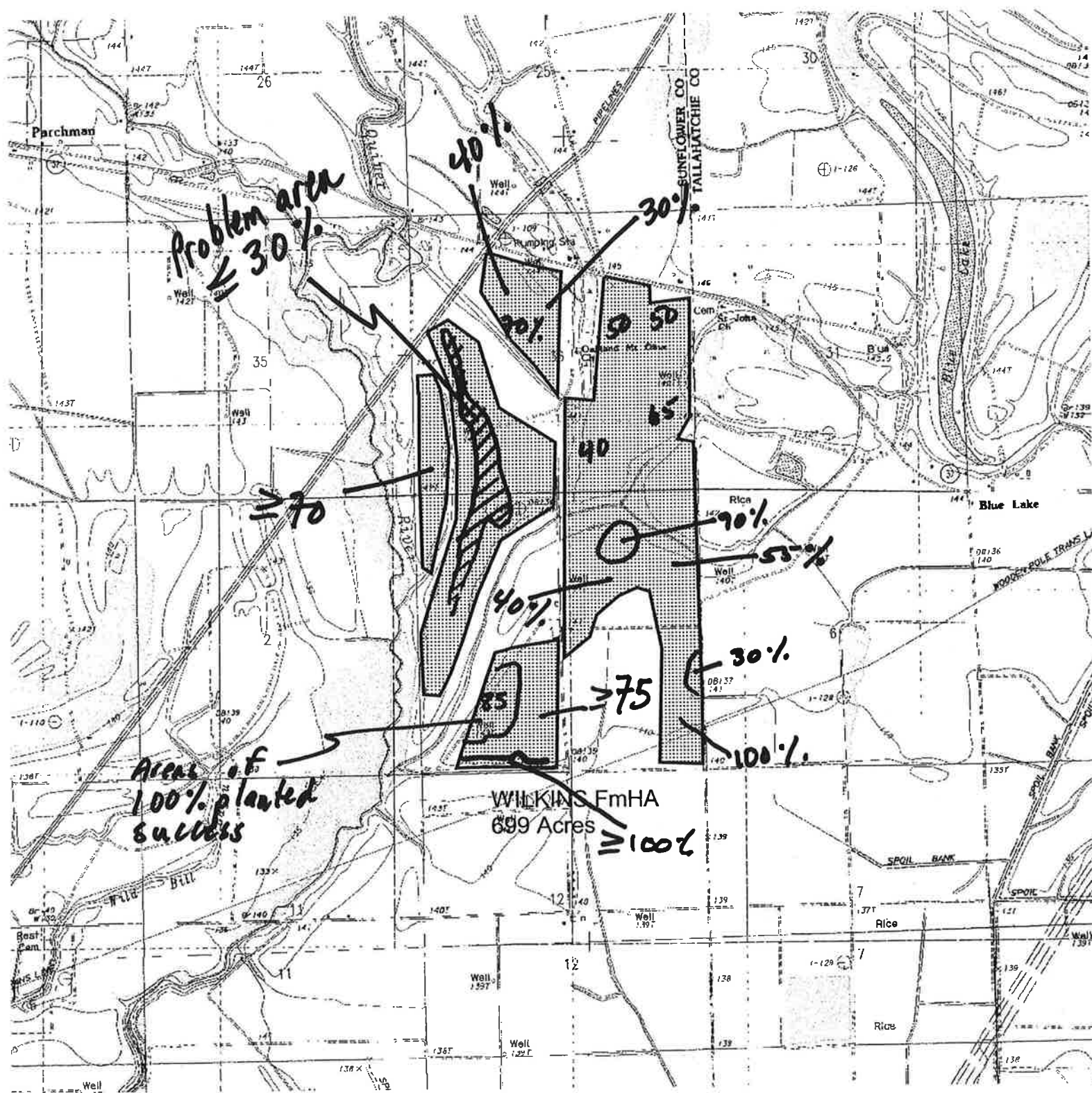


ESI / ILLINOVA Reforestation 1999-2000  
Existing Forest

0 0.9 1.8 2.7 Miles

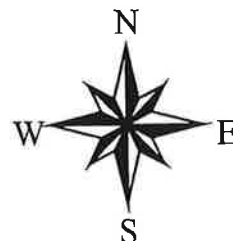


# ESI / ILLINOVA REFORESTATION PROJECT NORTH MISSISSIPPI REFUGE LANDS



- National Wildlife Refuge System
- ESI / ILLINOVA Reforestation 1999-2000
- Existing Forest

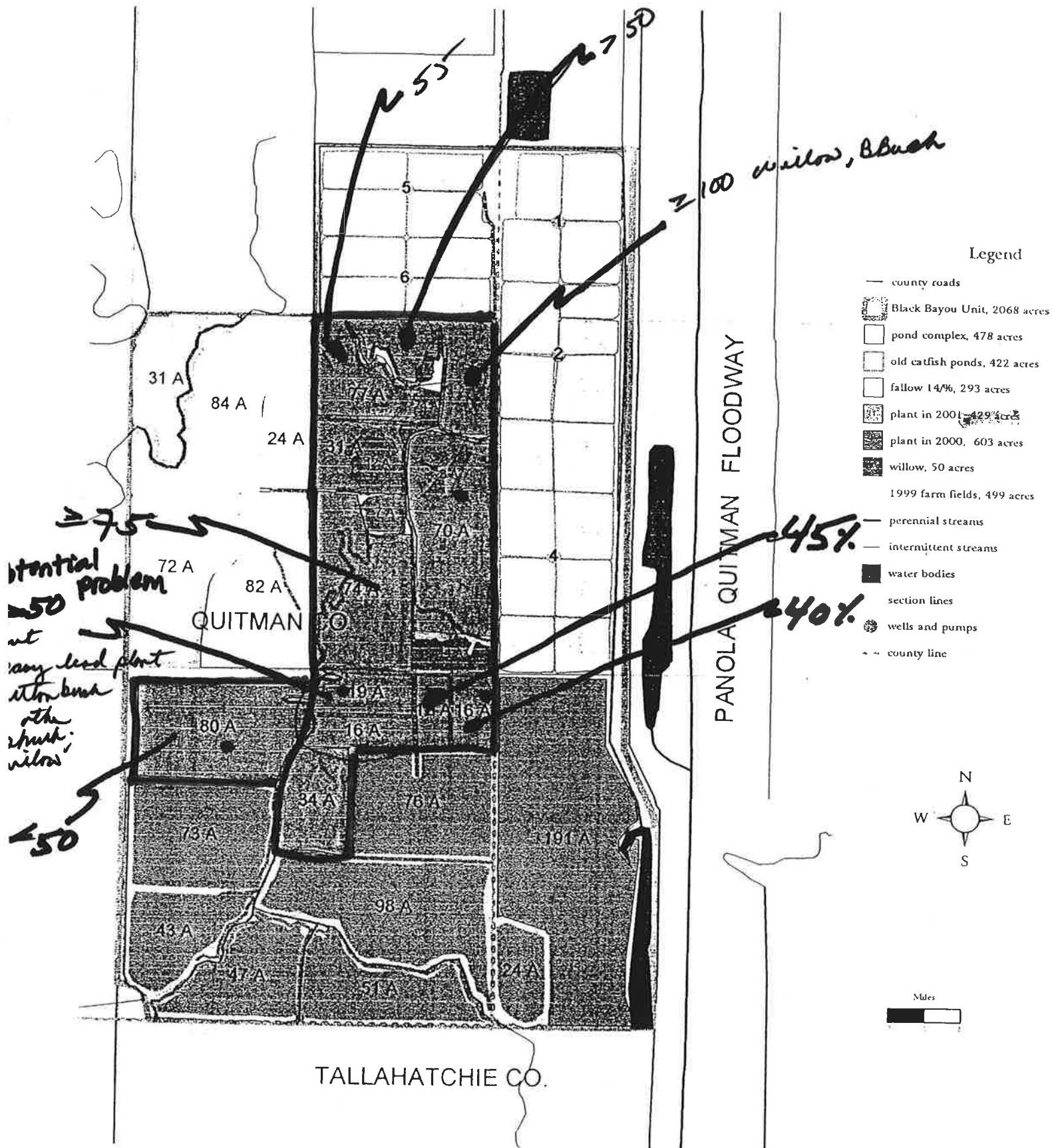
0 1 2 Miles



# COLDWATER NATIONAL WILDLIFE REFUGE

## QUITMAN, AND TALLAHATCHIE COUNTIES, MISSISSIPPI

### PROPOSED TREE PLANTING SCHEDULE FOR 2000-2001





## **QUALITATIVE ASSESSMENT OF ESI REFORESTATION SUCCESS ON NMRC PROPERTIES**

Prepared:  
September 2, 2003

For Client:  
Mr. Stephen W. Gard  
North Mississippi Refuges Complex  
U.S. Fish and Wildlife Service  
P.O. Box 1070  
Grenada, MS 38902

During the month of August 2003, Get Ducks, LLC, estimated post-plant success of hardwoods on 32 North Mississippi Refuges Complex properties planted FY 2002 pursuant to cooperative agreement with Environmental Synergy, Inc. Field methods consisted of visiting each site listed and making visual estimates of current stocking (i.e., survival). Where necessary sites were traversed along transects running perpendicular to land contour and observations were recorded at intervals. All on-site woody stems, whether perceived as planted or naturalized, were considered during the evaluation. Stocking was predicated on original density of 302 stems per acre.

Dense, green herbaceous cover likely precluded complete detection of seedlings. Seedlings are only recently beginning to crown above the herbaceous cover in most areas. With exceptions noted below, increased stocking of areas perceived as being sparsely regenerated, especially those patches located within tracts that are otherwise well stocked, will occur in due time through growth of seedlings not yet detected, natural regeneration or both. Final quantitative assessment is best deferred until five years post-plant; may differ from qualitative observation herein provided.

Summary of estimated survival is provided in Table 1. Reference to attached field maps may best elucidate within-site variability of stocking. Areas identified as requiring ESI's immediate attention are the southwest corner of Tallahatchie NWR, (estimated survival < 5% due to impounded water); the easternmost most FmHA Balducci (estimated survival is < 10%); FmHA Staten (estimated survival is 20%); southern tract of FmHA Watts (estimated survival  $\leq$  25%); FmHA Goss ( $\leq$  30% estimated survival). The northeast corner of FmHA Wilkins (estimated survival  $\leq$  30%).

Herbaceous competition is severe. Successful replant efforts should likely entail intensive site preparation to include hipped rows (or modified bedding for row integrity), in combination with over the row band applications of herbicides.

**Table 1. Summary of qualitative evaluation of ESI-related reforestation projects located on North Mississippi Refuges Complex properties. Get Ducks, LLC, August 2003.**

<i>Property Name</i>		<i>Estimated Survival</i>	<i>Comments</i>
Tallahatchie NWR (formerly Bear Lake Unit)		≥ 70%	Area described as situated in the southwest corner of Tallahatchie NWR (#11 on attached field map) has standing water. In the northern portion of this area, where most hardwood regeneration occurs, the water is as deep as 14 inches. The southern portion of the area is void of hardwood regeneration and consists instead of cattails and bullgrass. Remaining areas are excellently stocked, with some trees achieving 4+ ft heights. Species observed include Nuttall, water and willow oaks, persimmon, green ash bald cypress and cherrybark oak.
Field map numbers	1	90%	
	2	80%	
	3	90%	
	4	75%	
	5	75%	
	6	95%	
	7	75%	
	8	70%	
	9	45%	
	10	85%	
	11	< 5%	
	12	35%	
	13	65%	
Dahomey NWR		≥ 50%	Regeneration success and tree growth is much better in the northern than in the southern portion of the planted area. A preponderance of light seeded species in nearby forest areas will eventually mitigate any perceived stocking deficits.
Coldwater NWR (formerly Black Bayou Unit)		≥ 50%	Dispersal of seed by wind and water will likely ensure adequate stocking of these areas, to willow if nothing else; however, fields located on the southeast portion of the planted area were less than 40% stocked. The area located in the south central portion of the area had sufficient stems per acre, but species composition was comprised primarily of lead plant and button bush.
Balducci			The easternmost Balducci is an extremely hydric site and is nearly void of regeneration in the lower areas. Successful regeneration may depend on bald cypress and/or willow plantings
Refer to map	East	< 10%	
	West	≥ 60%	
Bass (69 acres)		≥ 50%	Accessed from the west. Easternmost portion (not planted) impounded in water.
Bass (278 acres)		≥ 50%	Center most portion is best. Natural regeneration will likely fill in remaining areas that are at this time seemingly understocked.
Bowling		≤ 50%	Regeneration very heavy along river, increasingly sparse away from river; heavy stocking of winged elms. Other species green ash and persimmon. Very heavy buck vine component.

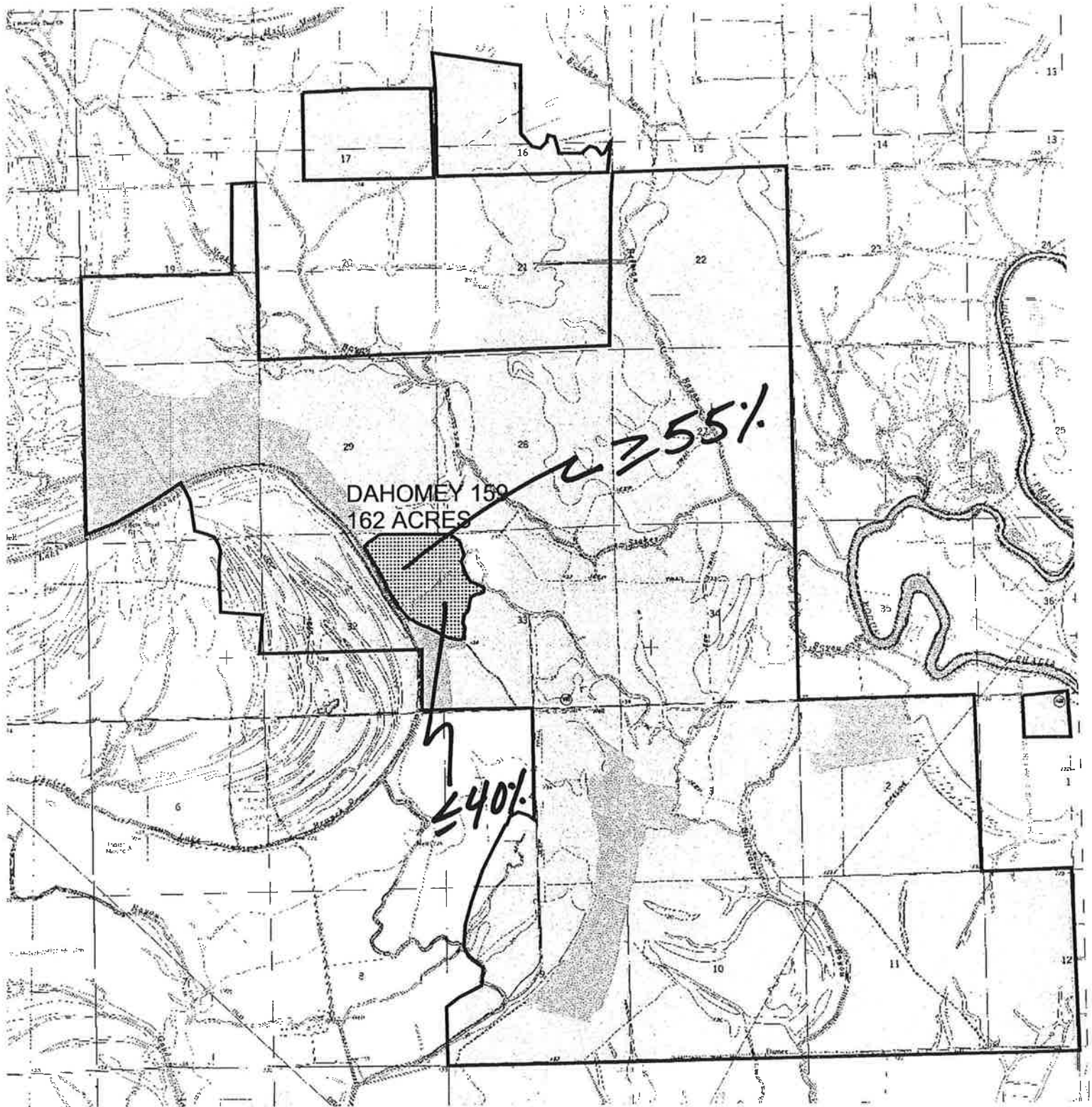
**Table 1. (Continued) Summary of qualitative evaluation of ESI-related reforestation projects located on North Mississippi Refuges Complex properties. Get Ducks, LLC, August 2003.**

<i>Property Name</i>	<i>Estimated Survival</i>	<i>Comments</i>
Butler	≥ 80%	Very heavy stocking of both planted and naturalized species. Species include oaks, sweetgum, green ash, cottonwood and persimmon. This property is unposted; accessed from the north.
Carmicle	≥ 70%	Excellent stand of planted hardwoods.
Goss	30%	This area was evaluated relatively extensively. Regeneration seems concentrated most along borders and ditches where there is a preponderance of naturalized regeneration; with the exception of the northwest portion, where stocking is outstanding, establishment is spotty across the remaining tract.
Hester	≥ 50%	
Kolle	70%	Excellent stand of ESI-planted hardwoods.
Lindsey (160)	≥ 70%	Regeneration consists of naturalized, preexisting planted, and ESI-planted hardwoods.
Lindsey (40)	≥ 50%	Regeneration consists of naturalized, preexisting planted, and ESI-planted hardwoods.
Lindsey (205)	≥ 65%	Regeneration consists of naturalized, preexisting planted, and ESI-planted hardwoods.
Mabus	≥ 70%	n/a
Mackey	≥ 45%	Area situated in northeast property is almost entirely void of hardwood regeneration. Prevalent species include willow, lead plant, Nuttall oak, green ash.
McClure	≥ 55%	Comprised of two separate tracts, each looks outstanding in terms of regeneration.
Pennington 360	≥ 50%	An area in the south central portion of the tract has 10-20% survival. Naturalization will likely fill the void in due time. Species include Nuttall oak, green ash, sumac, willow, and pine.
Powell	≥ 50%	Heavy eastern baharris component.
Ray	≥ 55%	Best regeneration located on westernmost portion of tract. Some naturalized pine present.
Savage	≥ 80%	Very heavy stocking of both planted and naturalized species. Species include oaks, sweetgum, green ash, cottonwood and persimmon. This property is unposted; planted area best accessed from the north.
Starr 350	45%	Regeneration seemed predominately natural regeneration. Species included sweetgum, winged elm green ash, willow, willow and Nuttall oaks. Some naturalized pine present.



# ESI / ILLINOVA REFORESTATION PROJECT DAHOMEY NWR

NO. MISS.

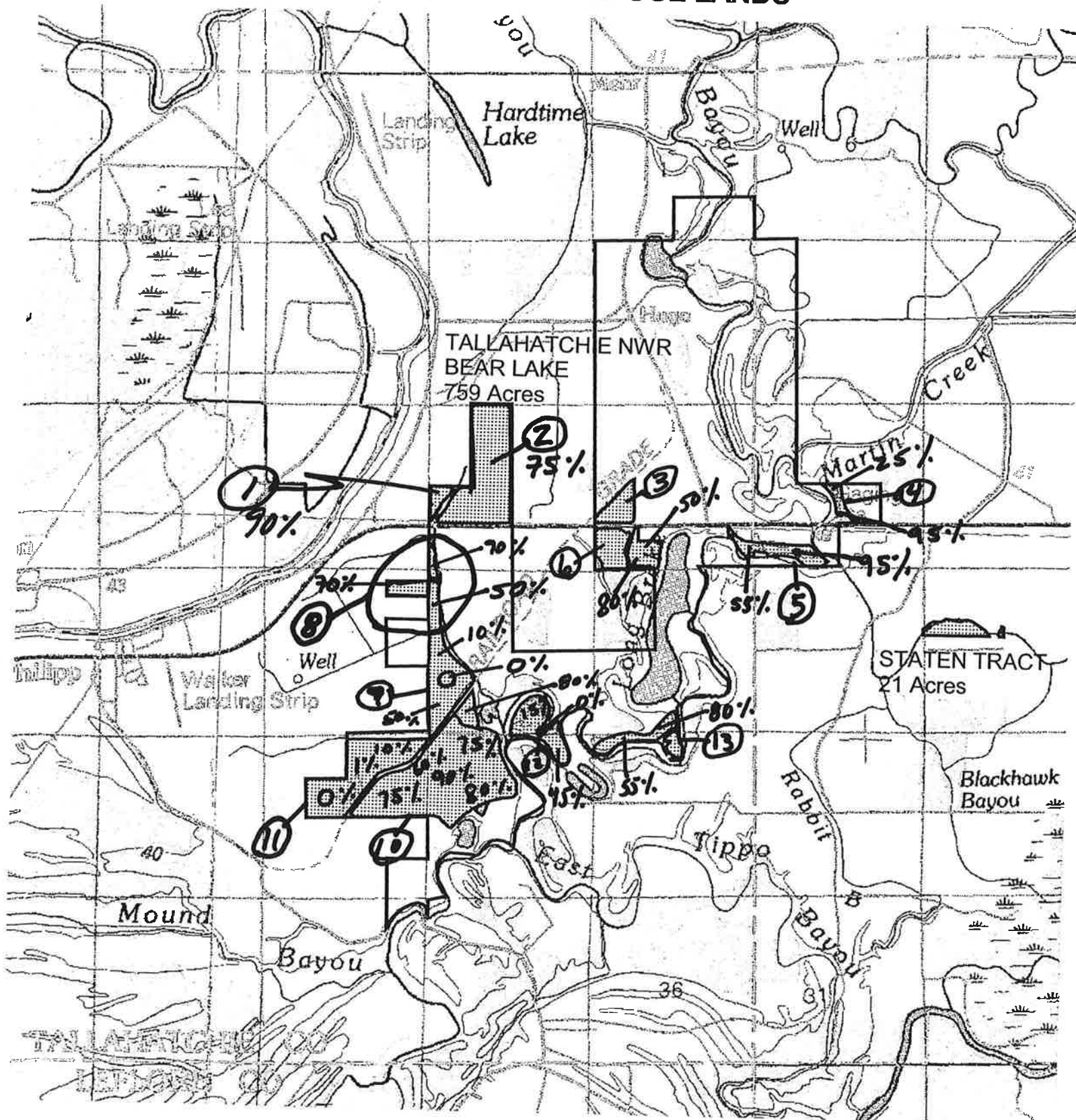


-  National Wildlife Refuge System
-  ESI / ILLINOVA Reforestation 1999-2000
-  Existing Forest

0 0.8 1.6 2.4 3.2 4 Miles

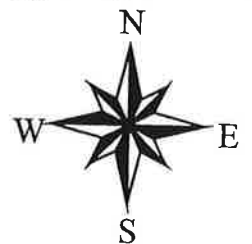


# ESI / ILLINOVA REFORESTATION PROJECT NORTH MISSISSIPPI REFUGE LANDS



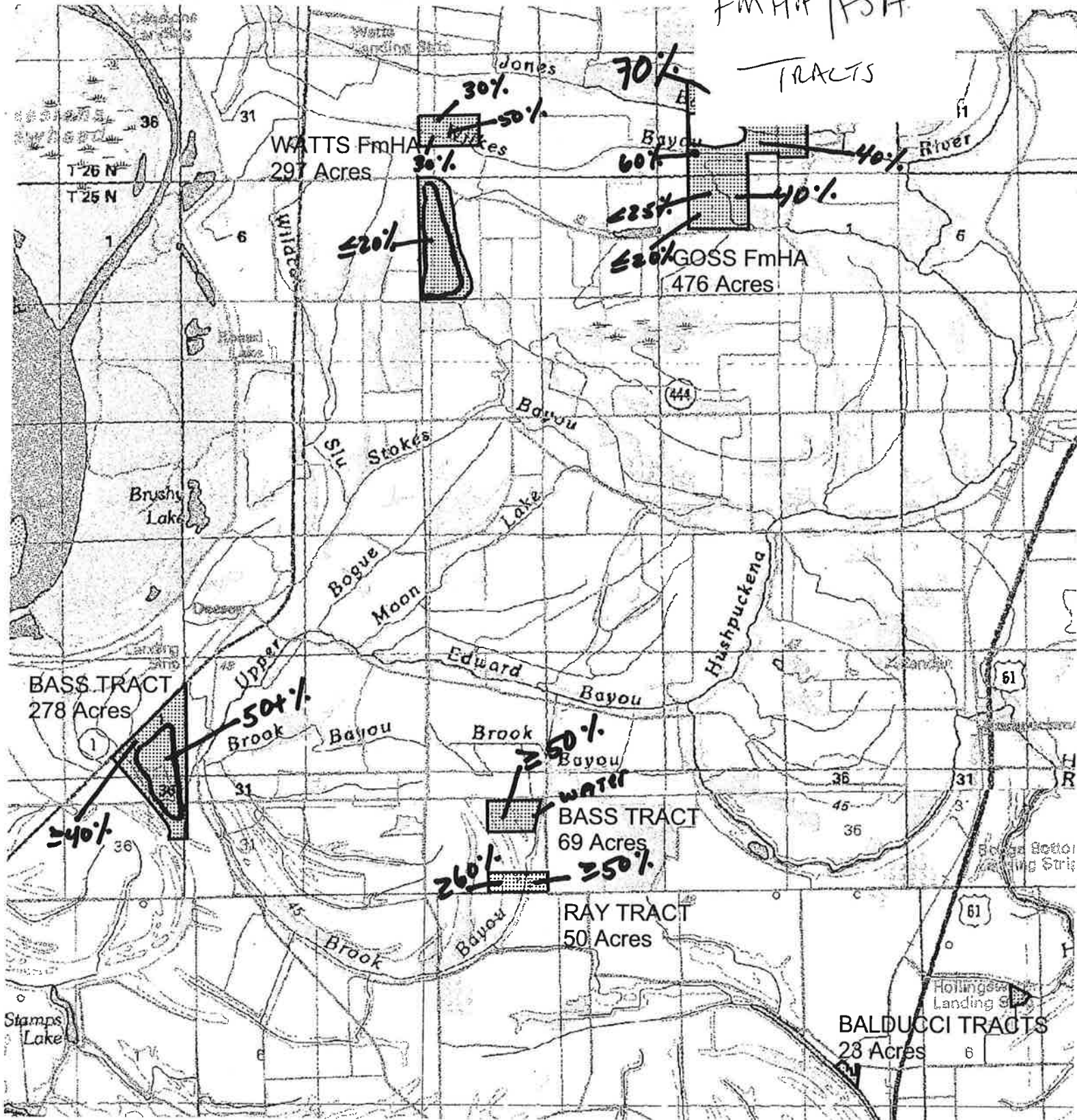
- National Wildlife Refuge System
- ESI / ILLINOVA Reforestation 1999-2000
- Existing Forest

0 1 2 3 4 Miles



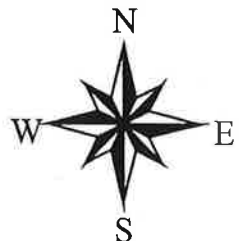
# ESI / ILLINOVA REFORESTATION NORTH MISSISSIPPI REFUGE

FmHA / FSA



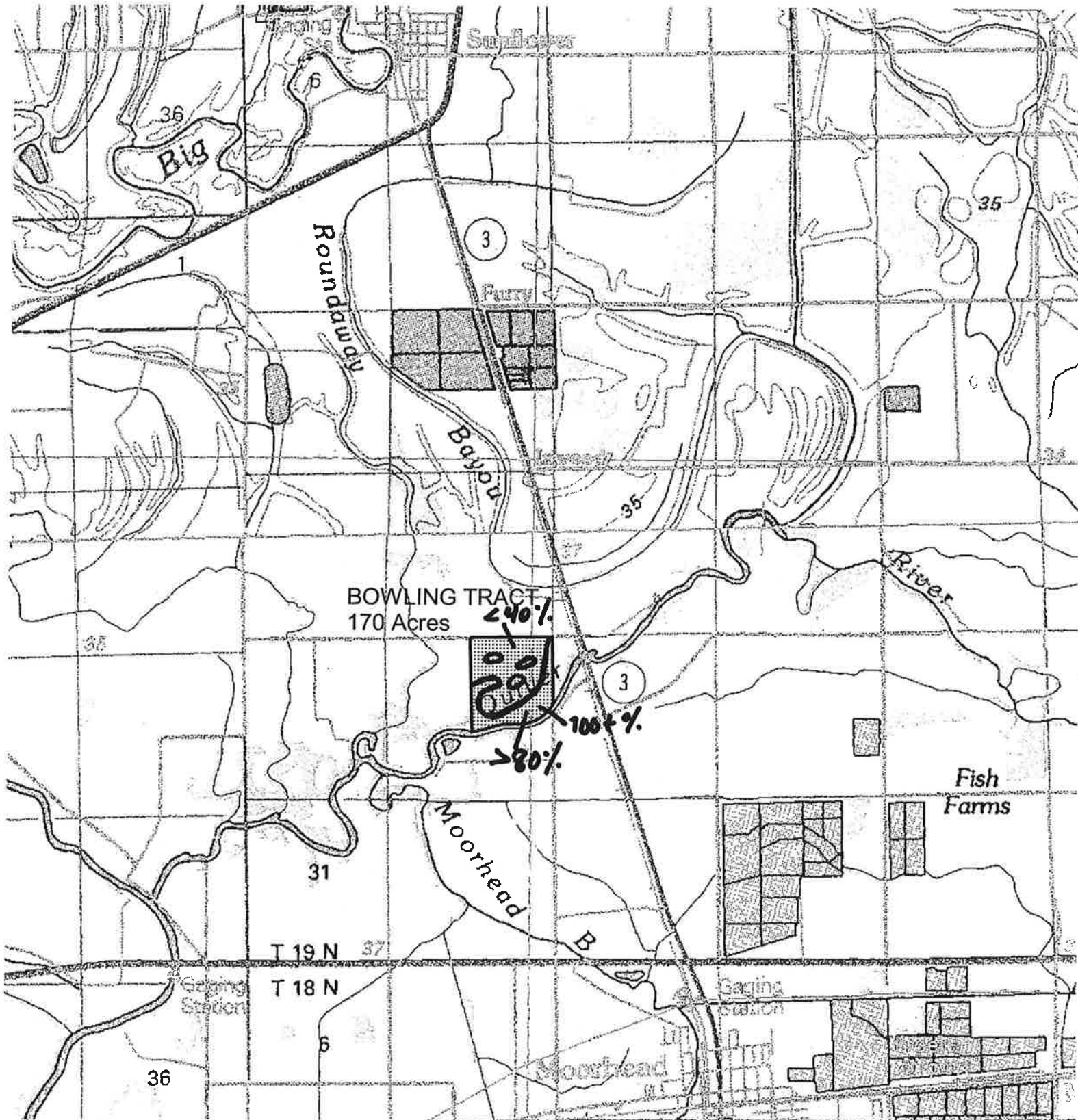
ESI / ILLINOVA Reforestation 1999-2000  
 Existing Forest

0 3 6 Miles





# ESI / ILLINOVA REFORESTATION PROJECT NORTH MISSISSIPPI REFUGE LANDS

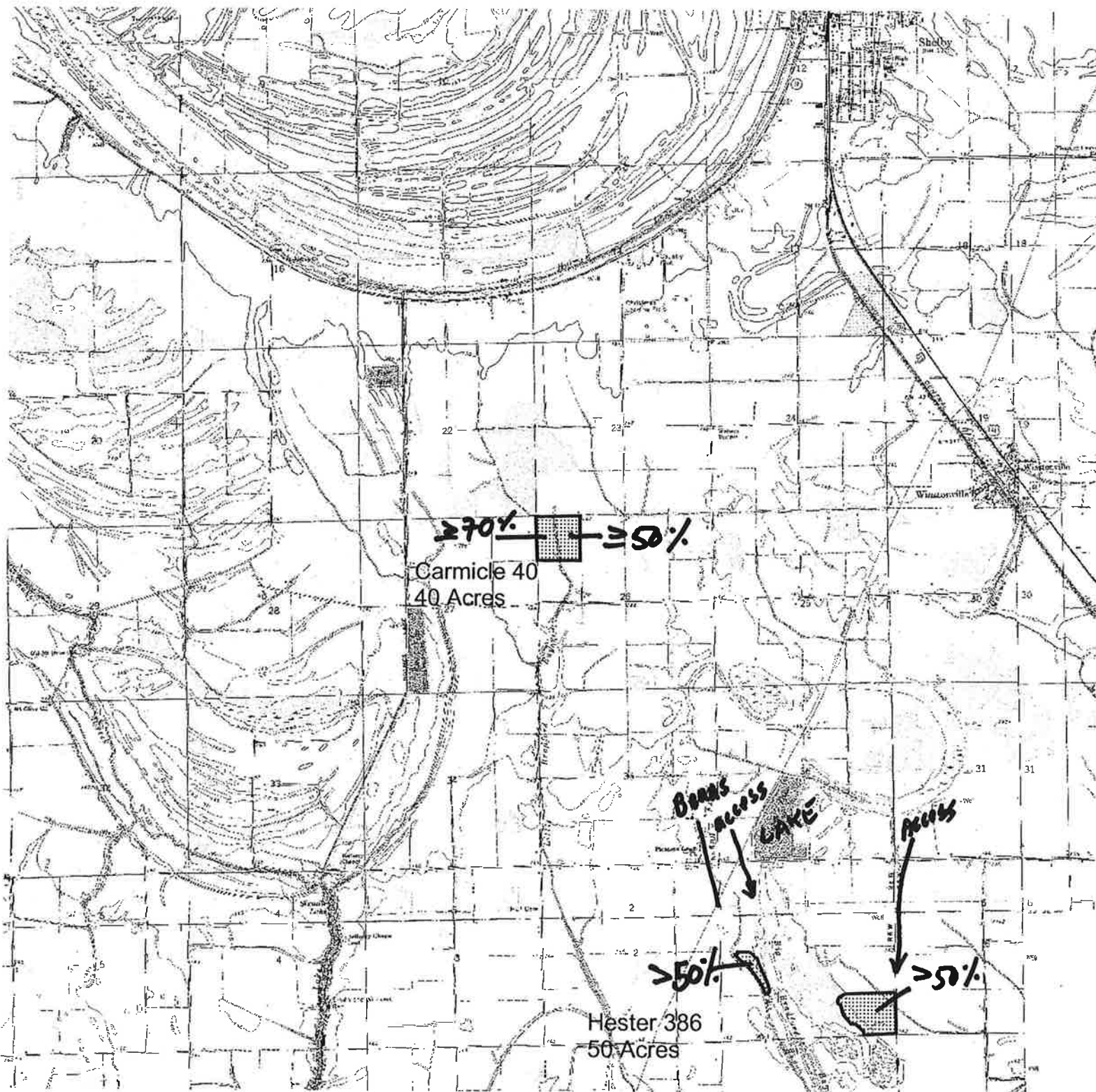


 ESI / ILLINOVA Reforestation 1999-2000  
 Existing Forest

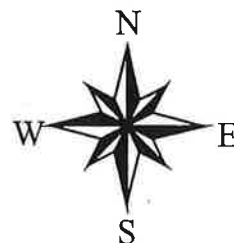
0 2 4 Miles



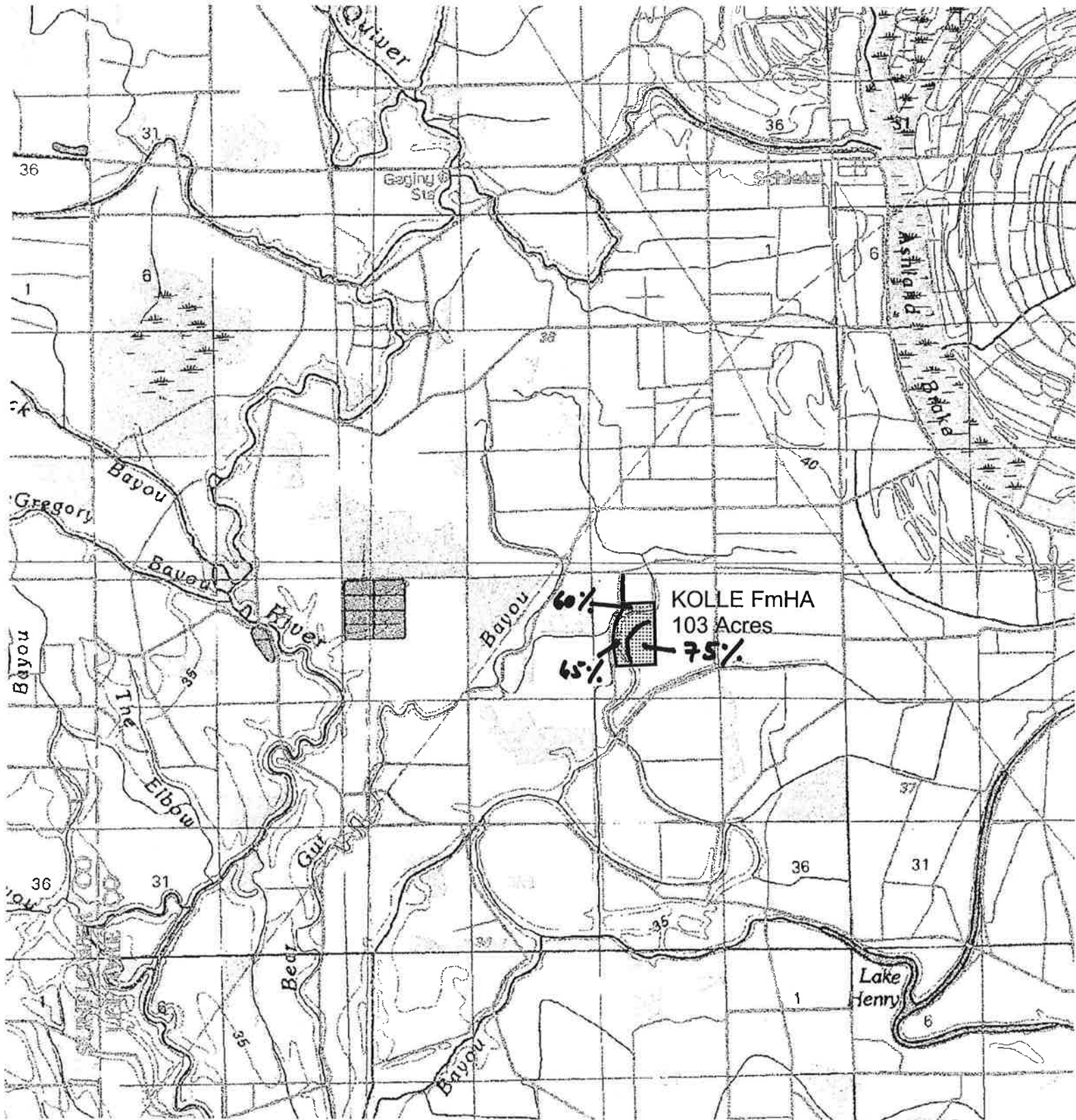
# ESI / ILLINOVA REFORESTATION PROJECT NORTH MISSISSIPPI REFUGE LANDS



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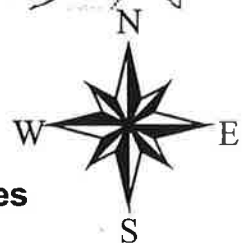


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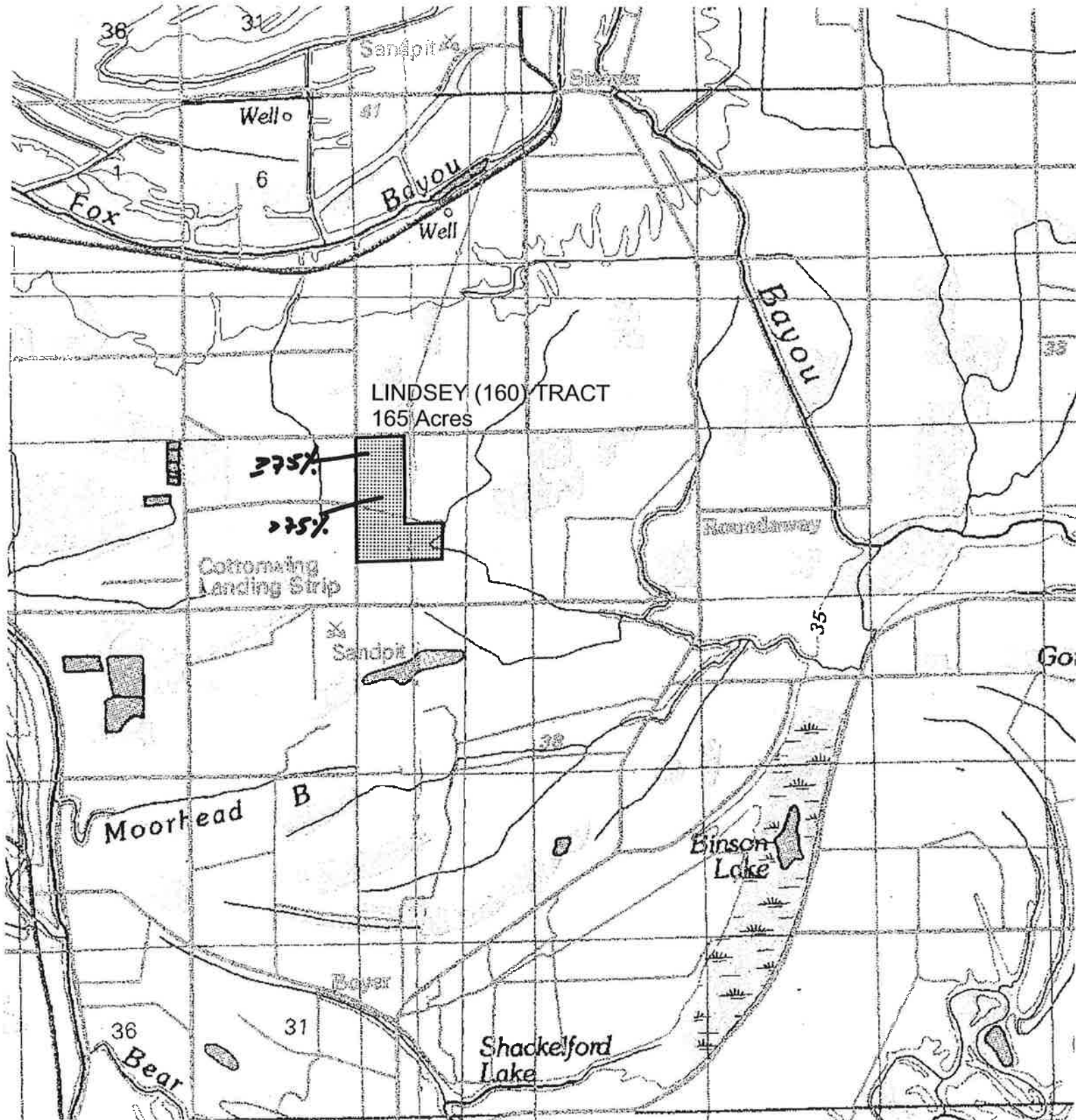
ESI / ILLINOVA Reforestation 1999-2000  
Existing Forest

0 2 4 6 Miles





# ESI / ILLINOVA REFORESTATION PROJECT NORTH MISSISSIPPI REFUGE LANDS

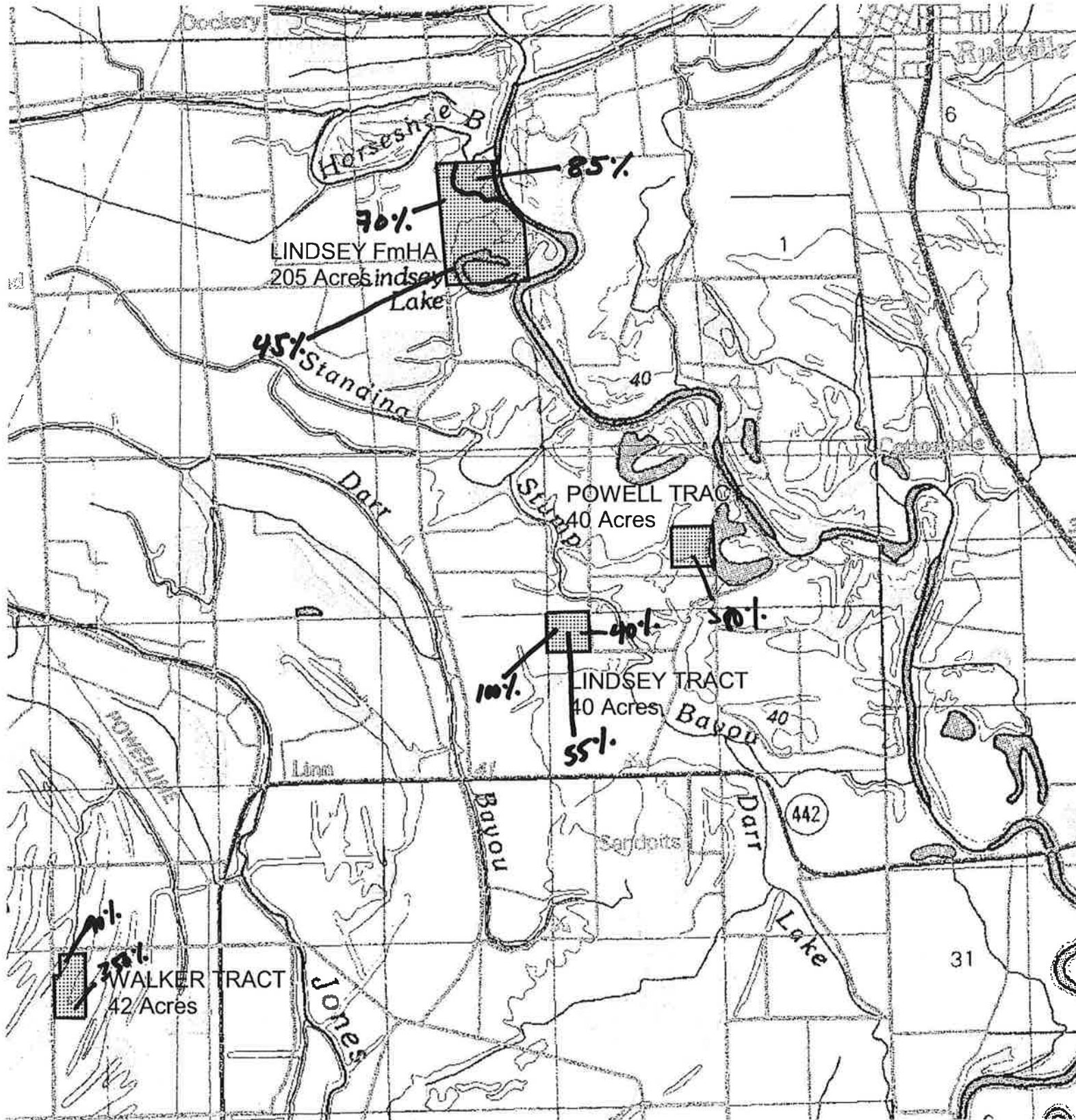


 ESI / ILLINOVA Reforestation 1999-2000  
 Existing Forest

0 1 2 3 4 Miles



# ESI / ILLINOVA REFORESTATION PROJECT NORTH MISSISSIPPI REFUGE LANDS

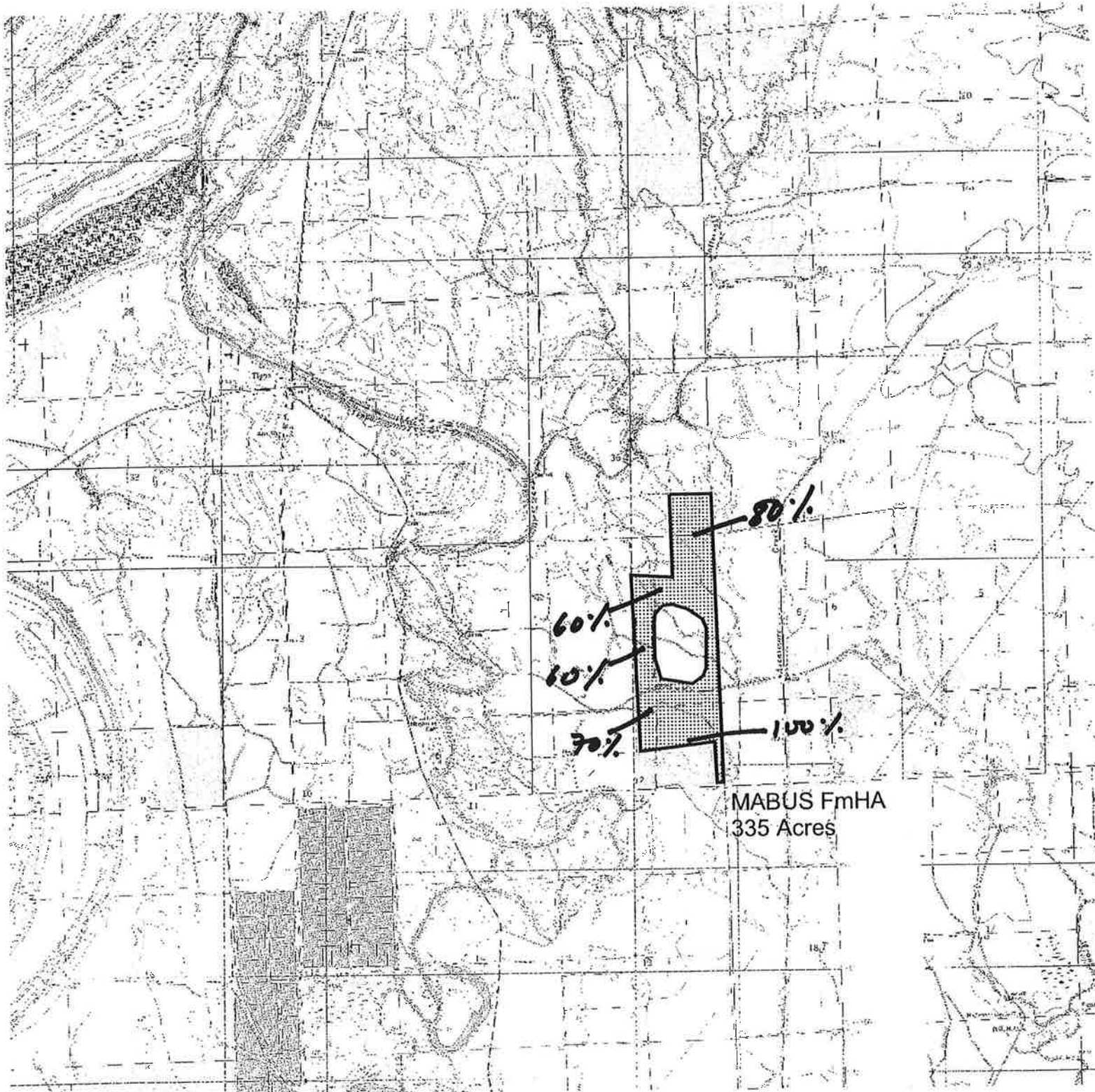


 ESI / ILLINOVA Reforestation 1999-2000  
 Existing Forest

0 2 4 Miles

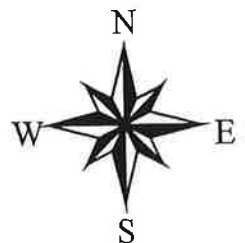


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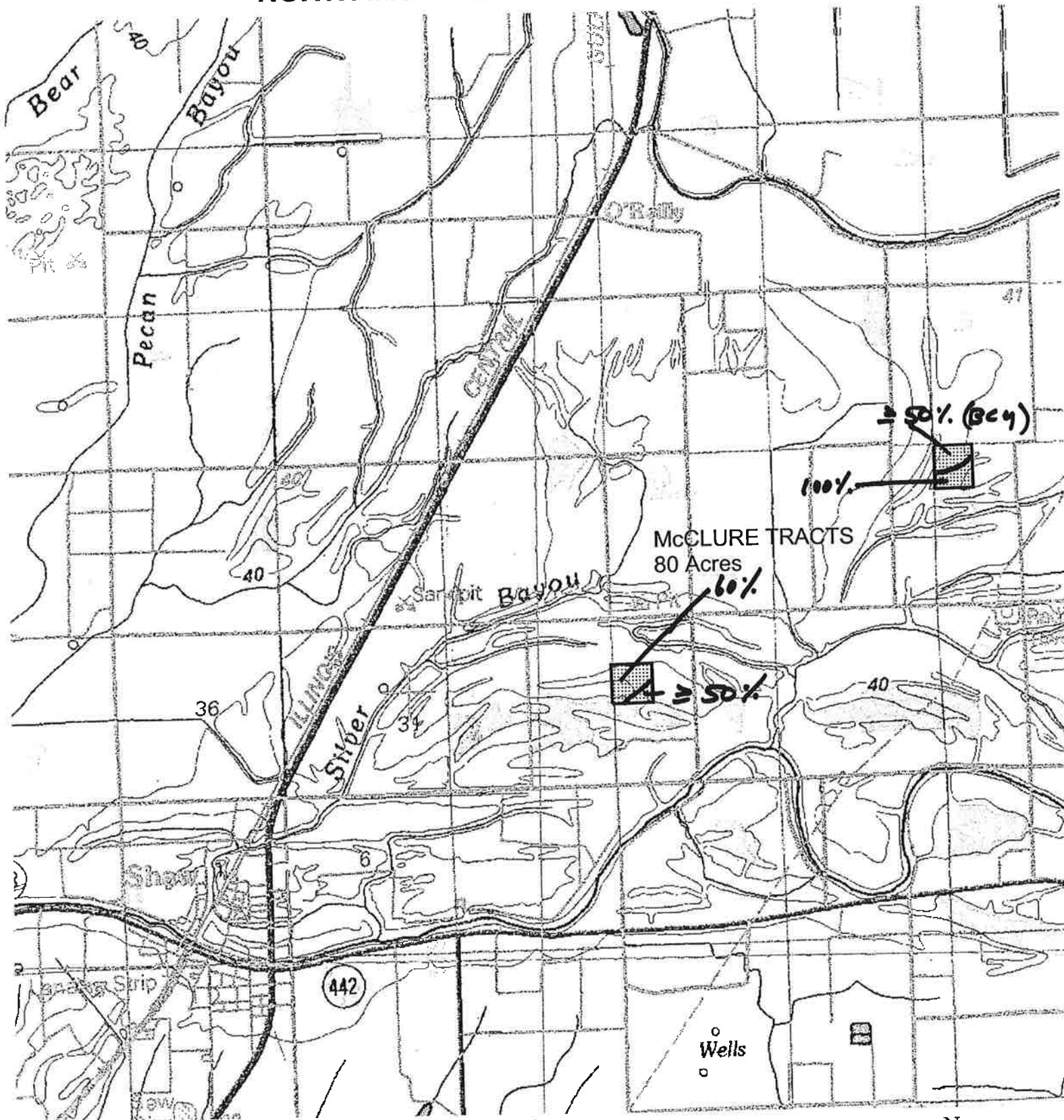
- National Wildlife Refuge System
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- Existing Forest

0 1 2 3 Miles





# ESI / ILLINOVA REFORESTATION PROJECT NORTH MISSISSIPPI REFUGE LANDS

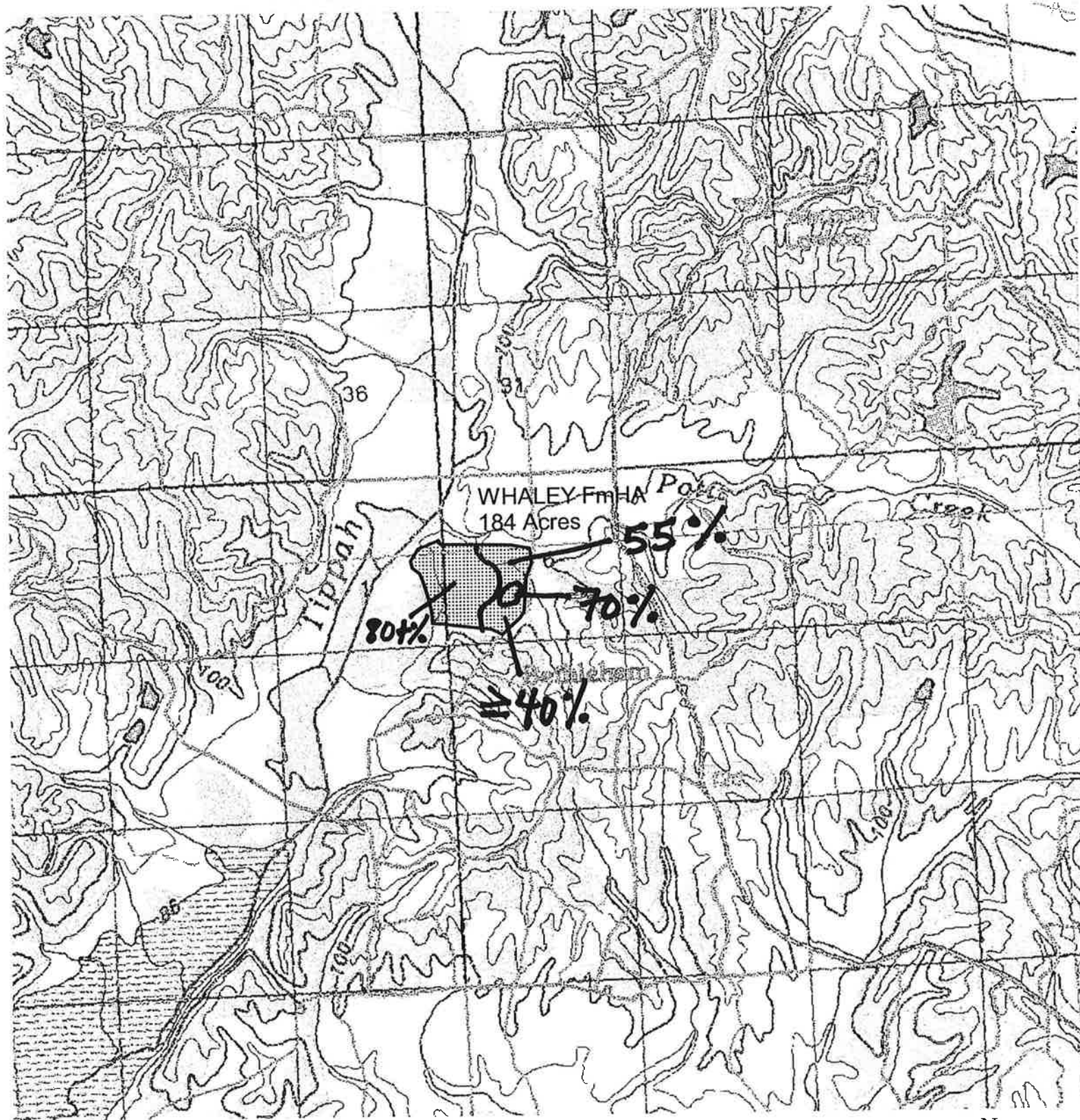


ESI / ILLINOVA Reforestation 1999-2000  
Existing Forest

0 2 4 Miles



# ESI / ILLINOVA REFORESTATION PROJECT NORTH MISSISSIPPI REFUGE LANDS



ESI / ILLINOVA Reforestation 1999-2000  
Existing Forest

0 0.9 1.8 2.7 Miles



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